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OPTICAL EXTINCTION PREDICTIONS FROM MEASUREMENTS ABOARD A BRITISH ETC(U)
AUG 81 G L TRUSTY, T H COSDEN

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Optical Extinction Predictions from Measurements Aboard a British Weather Ship

G. L. TRUSTY AND T. H. COSDEN

*Applied Optics Branch
Optical Sciences Division*

August 27, 1981



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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The <i>Admiral Fitzroy</i> is one of two weather ships that tend station <i>Lima</i> , $57^{\circ}\text{N } 20^{\circ}\text{W}$, for the British Ocean Weather Service. We were aboard <i>Fitzroy</i> on station over a twenty-day period in the month of July. Using two Particle Measuring Systems (PMS) particle spectrometers, we measured marine aerosols with radii in the size range from 0.1 to 15 μm . The probes were 3 m from the ocean surface on the windward quarter of the drifting ship. The aerosol size distributions gave calculated extinction coefficients at ten wavelengths between 0.4 and 10.0 μm . Statistical plots show the most frequent aerosol extinction to be near 0.02 km^{-1} for 0.55 μm and 0.005 km^{-1} for 10.0 μm . A plot of calculated extinction versus wavelength for several conditions shows that the ratio for extinctions, $k_{0.55}/k_{10.0}$, cannot be considered to be constant.		

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OPTICAL EXTINCTION PREDICTIONS FROM MEASUREMENTS ABOARD A BRITISH WEATHER SHIP

INTRODUCTION

The *Admiral Fitzroy* is one of two weather ships that tend station *Lima*, 57°N 20°W, for the British Ocean Weather Service. In late June 1978 we boarded the *Fitzroy* in Greenock, Scotland, to spend one 28-day station-keeping session with the Weather Service crew. We had with us equipment for measuring atmospheric aerosols.

As part of a joint project which included personnel from NRL and two laboratories from the United Kingdom, two of us from the former Optical Radiation Branch were to measure the marine aerosol in an open-ocean environment. While we were at sea the British were to measure aerosols on the seaward shore of South Uist, one of the Hebrides, off the northwest coast of Scotland.

Prior to the departure of the *Fitzroy*, R. Allan and S. Craig of the Royal Aircraft Establishment (RAE) and W. Shand, N. Tolliday, and A. Harland of the Royal Signal and Radar Establishment (RSRE) joined us at the dock with particle-counting equipment similar to ours. The purpose of the meeting was to make side-by-side comparison measurements of the two sets of aerosol spectrometers prior to the measurement period. We repeated the comparison at the end of the cruise.

The underlying reason for the program is an interest in the marine aerosol in the North Atlantic and that aerosol's effect on the propagation of electromagnetic waves of visible and infrared wavelengths. The immediate interest for the joint project was to determine the suitability of the weather ship as a platform for making the desired measurements and to compare aerosol measurements made in an open-sea environment with those made at a land-based seaside site. This report will only discuss the first of these two issues. The comparison of the land and sea measurements will be the subject of a later UK/US report.

EQUIPMENT AND PROCEDURES

The most obvious piece of equipment was, of course, the ship. The *Admiral Fitzroy* is a 70-m (228-ft) British corvette built in 1943 for North Atlantic duty during World War II. Of the several corvettes once in the British Ocean Weather Service, only two remain. The craft are totally seaworthy, as their record shows, but because of their short length and narrow beam they roll a great deal, making them uncomfortable platforms. Also, in moderate to heavy seas they take a lot of water across the decks, making open-air experimental work treacherous or impossible.

One appealing feature of the ships is that they steam to their station and then drift without power in a fixed attitude to the wind, thus assuring the experimenter access to a clean air sample for an extended period of time. Also, with equipment of the type we used several mounting locations are available, which allows measurements to be made at three or four heights. However, both of these features have limitations, associated with bad weather, which essentially make the ship acceptable only as a fair-weather platform for our type of measurement. A further discussion of this will occur in a later section.

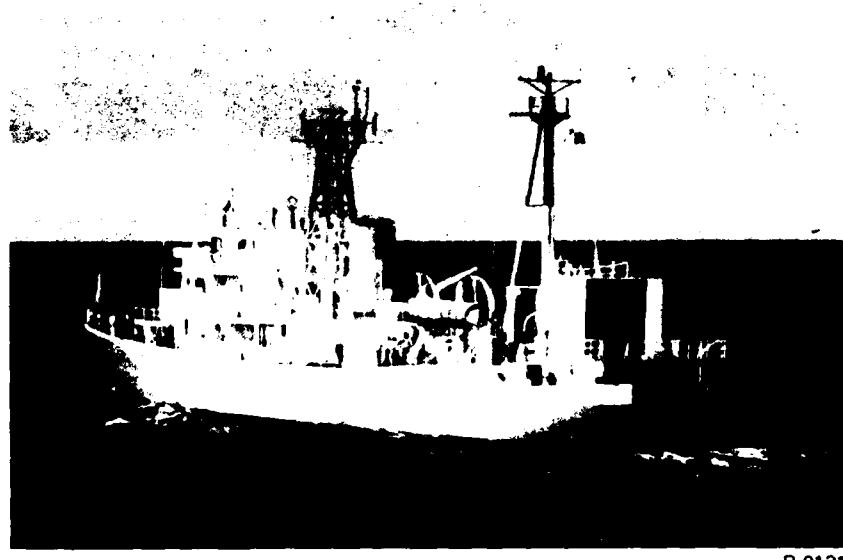
Manuscript submitted May 14, 1981.

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Two Particle Measuring Systems, Inc. (PMS) particle spectrometer probes measured the aerosol aboard the *Fitzroy*. One, the Active Scattering Aerosol Spectrometer Probe (ASASP), measures particles with radii in the 0.1- to 2.0- μm range. The second is a high-volume version of the classical scattering probe (CSASP), which covers a range of 1.0 to 15 μm . A third probe, another CSASP which we had intended to use at various locations on the ship, malfunctioned early on the trip and provided no data.

We placed these two instruments windward while the ship drifted on station. Since the drifting attitude has the wind coming from roughly 110° off the port bow, we needed to be as far aft as possible to avoid any contamination emanating from the ship. To avoid interfering with required weather-ship operations, the only available mounting for the instruments was 3 m from the ocean surface.

Figure 1 shows the *Admiral Fitzroy* at sea. The large superstructure at the stern is a balloon shed. The probe location was just below the shed. Later we found that another location at 6 m would have been acceptable to the Weather Service personnel at their balloon-shed level. Access to the probes would have been restricted, however, during balloon launchings.



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Fig. 1 — *Admiral Fitzroy* at sea

The PMS probes normally function on land as part of the mobile laboratory shown schematically in Fig. 2, which indicates two primary sets of sensors. The meteorological set on the upper left includes devices for monitoring air temperature, dew point, wind speed, and wind direction. On the upper right are the two particle spectrometers. The electronics that handle the data from the sensors are in the mobile laboratory and are illustrated in three columns in Fig. 2. The center column shows the PMS electronics, which include the data buffer and a digital magnetic tape where the information from all sensors is stored every second.

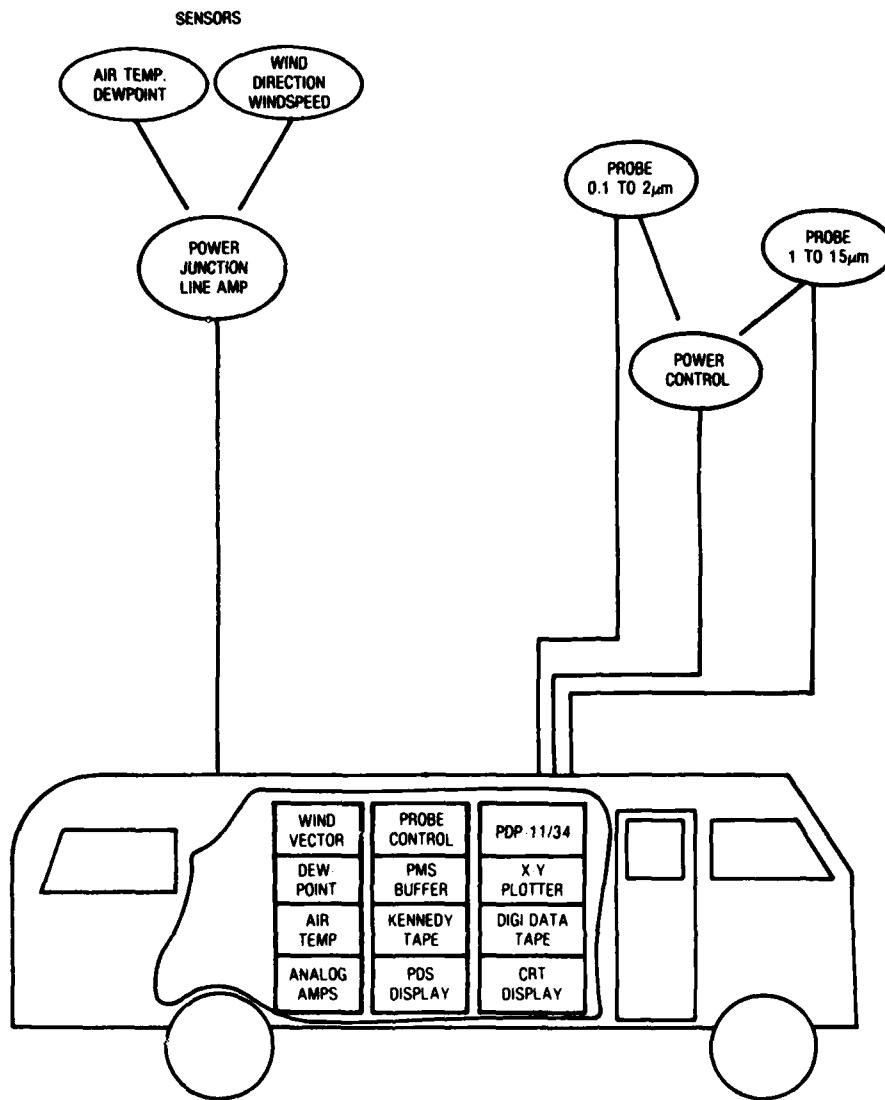


Fig. 2 — Aerosol mobile laboratory

Simultaneously, the system feeds the information into the PDP-11/34 data acquisition system for real-time processing. The user may specify averaging times. Data reduction includes the generation of aerosol size distributions from the probe data and the calculation, from these distributions, of extinction coefficients for ten arbitrary wavelengths by the Mie scattering theory. A disk stores resultant extinction coefficients, size distributions, and averaged meteorological parameters at the end of each averaging period. These data later produce time plots or cross-correlation plots.

Figure 3 gives an example of real-time output on the computer terminal from the computer program used on the *Fitzroy* cruise. The top line shows the year, day, time of day, and length of the averaging time. The next line of numbers gives the air temperature, dew point, wind speed, wind

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direction, laser reference level for the ASASP, wind wave-height, visibility, ship heading, partial pressure of water vapor (calculated from the dew point) and the relative humidity (from the dew point and air temperature). We obtained the wind wave-height, visibility, and ship heading from the hourly recordings of the Weather Service personnel and entered inputs using three potentiometers into the computer's analog interface. The other values came from our own instruments.

78-21281220 MINHVI=20 OUTPUT FROM PROGRAM "FIT25"

HT	DP	W1	WDH	PMSRV	WDWVH1	VIS	HMDR	PPH2O	PH	
DEG C	DEG C	M SEC	DEG	VOLI METERS	KM	DEG	TORR	%		
12.1	11.6	5.46	301.	7.2	1.0	4.00	37.	10.23	97.0	
14			0.12E+04	0.75E+03	0.44E+03	0.29E+03	0.17E+03	0.85E+02	0.42E+02	
0.45E+02	0.31E+02		0.20E+02	0.14E+02	0.18E+02	0.20E+02	0.14E+02			
12			0.67E+02	0.36E+02	0.22E+02	0.35E+02	0.27E+02	0.33E+02	0.25E+02	
0.45E+02	0.14E+02		0.84E+01	0.60E+01	0.84E+01					
5			0.27E+02	0.28E+02	0.38E+01	0.29E+01	0.50E+01			
15			0.30E+01	0.36E+00	0.11E+00	0.38E+01	0.19E+01	0.77E-02	0.71E-02	
0.48E-02	0.27E-02		0.27E-02	0.18E-02	0.10E-02	0.30E-03	0.39E-03	0.41E-03		
1	2	3	5	1	2	3	5	1	2	
5	+									
4	+									
3	+	4								
2	+	4								
1	+	4								
0	+									
-1	+									
-2	+									
-3	+									
-4	+									
1	2	3	5	1	2	3	5	1	2	
NUMBER/CC	HFM/CC	VOLUME/CC								
113.4	52.5	152.3								
CALCULATED EXTINCTION HT*										
0.45	0.55	0.75	1.05	1.61	2.25	3.80	5.30	8.15	10.0	MICRON
0.126	0.121	0.103	0.108	0.094	0.075	0.062	0.045	0.031	0.0221	1/KM

Fig. 3 — Sample output of real-time computer program

The next series of numbers gives the values of the points plotted on the particle size distribution below the numbers. The plot is $dN/dR(\text{cm}^{-3}\mu\text{m}^{-1})$, where N is the particle concentration and R is the particle radius, vs R (μm) in a log-log form. The vertical scale ranges from 10^{-4} to 10^{+5} as shown, and the horizontal scale covers a range of 0.1 to 30. On the curve itself, the numbers 4, 3, and 2 indicate the three ranges of the active scattering probe and a 1 indicates results from the high-volume scattering probe.

The on-line program uses the distribution to calculate, in real time, the particle number density (cm^{-3}), the cross-sectional area density ($\mu\text{m}^2 \text{cm}^{-3}$) and the volume density ($\mu\text{m}^3 \text{cm}^{-3}$). The results of those calculations appear directly beneath the plot. Finally, from the distribution, the extinction coefficients (per kilometer) at ten wavelengths (μm indicated as microns) are calculated in real time, as shown in the last line. These extinction coefficients, obtained from Mie theory, give only the extinction due to the aerosols; no molecular absorption or Rayleigh scattering is included.

Because the ship is small, we could not take the mobile laboratory on board. Thus, we removed the main electronic modules from the van and placed them in a compartment usually used as the radio and meteorological workshop. Cables ran about 10 m to the sensor location. Figure 4 shows the sensors mounted in their operating position. In this position they were exposed to the elements, as their measurement requirements necessitate. However, since the particle spectrometers are not rainproof, we took them inside during the off hours. Furthermore, in rough weather the waves actually broke over the mounting position, making it imperative that they not be left unattended for long periods. Thus, the data in this report are primarily for the daylight hours and relatively fair weather.

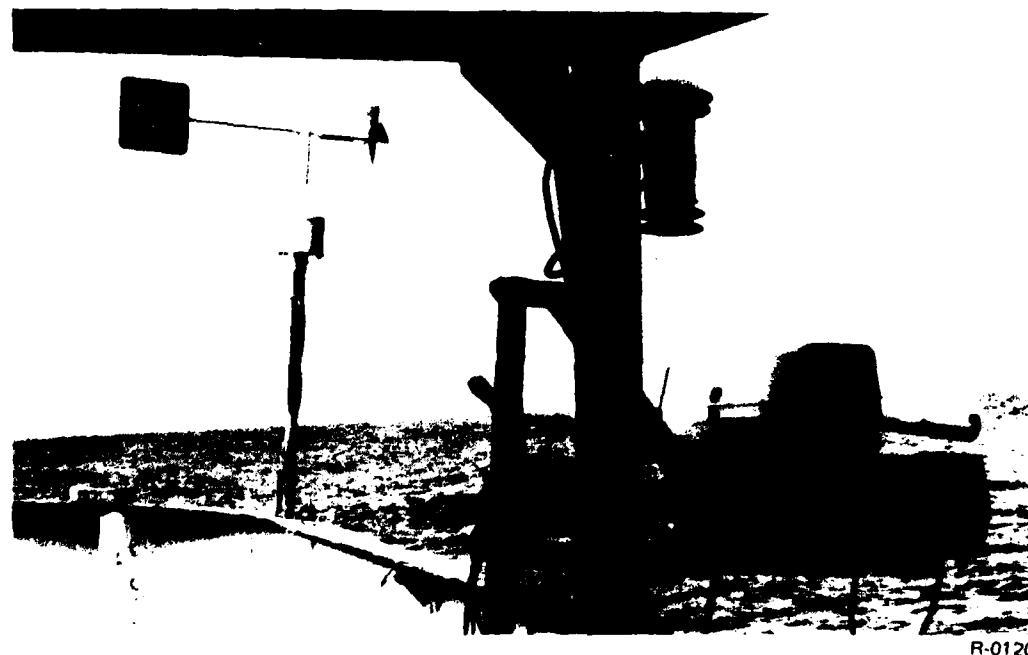


Fig. 4 — Aerosol spectrometers at mounting site

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Daily, weather permitting, we mounted the probes and did a bin-by-bin check on their operation. We then set the initial Weather Service readings on the potentiometers and did a sample real-time computer run to check operation. After mounting a data tape, we chose a total run time according to the weather conditions and instructed the computer program to produce an appropriate number of 20-min averages for disc storage. During the time on station we produced 101 of these 20-min averages. The reduction of the data tapes upon returning to NRL gave 254 of these averages.

PARTICLE-COUNTER CALIBRATION

Although calibration equipment is taken into the field in case of emergency, we rely on the manufacturer's calibration of the aerosol probes. The instruments are calibrated before each major field trip. If it seems warranted, the calibration is repeated after the trip. Calibration is done using glass beads for the larger size ranges and polystyrene or latex spheres for the smaller sizes. Adjustment is seldom needed during calibrations.

The manufacturer gives an accuracy of 10% to the flow rates and plus or minus one sampling bin size for particle sizing. The error in the flow rate converts directly with respect to an extinction coefficient calculation. The bin-size error is more complex. Due to the steep slope on many of the size distributions, a one-bin displacement may not appear to change the curve much, but a calculation of extinction coefficients may reveal an order-of-magnitude effect.

Nevertheless, we have made several comparisons [1-3] with other instruments running concurrently and have found agreement generally better than the one-bin error would predict. Further, we have measured particles at sites in conjunction with optical transmission measurements. When wind direction and relative humidity were taken into account, predicted and measured transmissions compared favorably.

MEASUREMENT RESULTS

Rather than showing all 254 particle size distributions and their associated meteorological parameters, we will look at the statistical nature of the measured variables. At station *Lima*, there is little land influence. The station is located 800 km (500 mi) west of Scotland, as marked in Fig. 5, and with a westerly air-mass movement, the air temperature is closely linked to the sea temperature. For July, a nearly perpetual cloud cover also contributes to the stability. Thus, temperature excursions are small. Figure 6 is a frequency-of-occurrence plot of the air temperature for the 254 twenty-minute averages. The figure shows very well the lack of variation of the temperature during daylight hours.

Although knowledge of the air temperature is important, the variables of interest for studying the marine aerosol are wind speed and relative humidity. Figure 7 is a statistical plot of the wind speed. It appears that the data give a normal distribution. However, the data are biased because we could not take data when high winds generated waves which threatened the instruments. This problem stopped us from taking data completely for 3 days on station.



Fig. 5 — Measurement location — Station *Lima*, 57°N 20°W

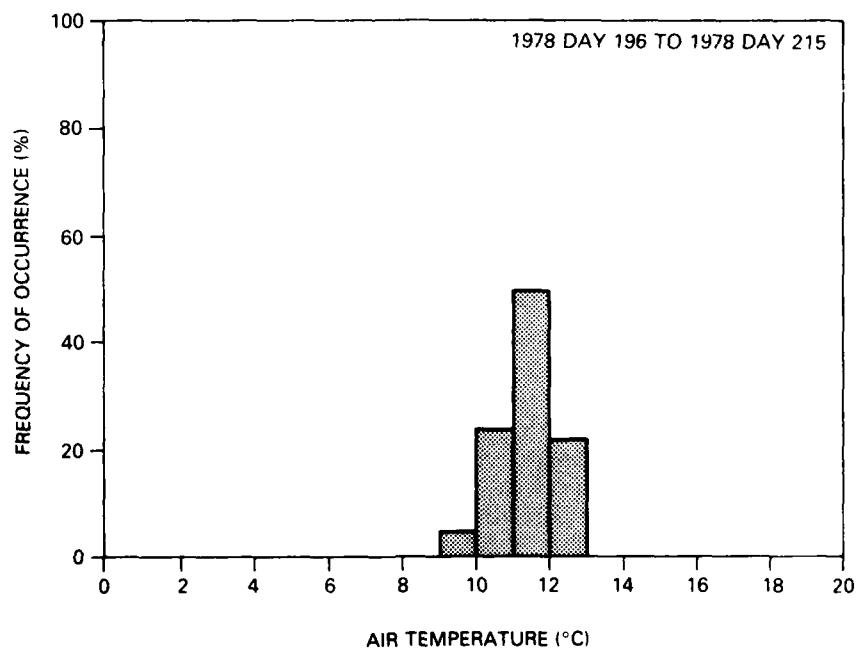


Fig. 6 — Frequency-of-occurrence plot of air temperature

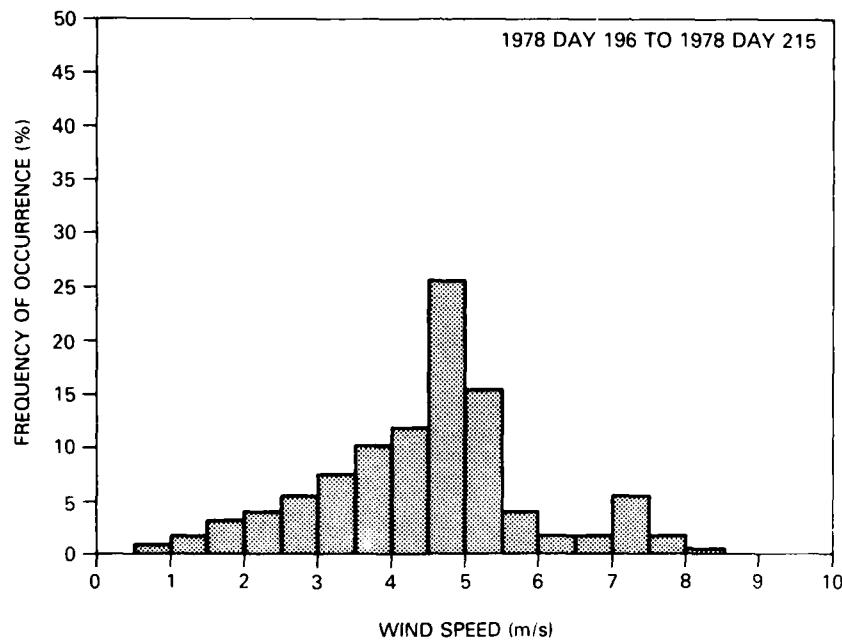


Fig. 7 — Frequency-of-occurrence plot of wind speed

A brief word here about the correlation of airborne particles with wind speed is appropriate. Cross-correlation calculations between wind speed and particle parameters such as total number, cross section, volume, and calculated extinction show that the correlation is quite low for our samples. Figure 8, for example, shows a plot of the parameter which gave the best correlation, viz., total particle volume. Obviously the correlation is not good; the others were worse. In observing the conditions at sea directly, we saw that for a rising wind the decrease in visibility did not seem to occur until after the higher wind had existed for a prolonged time. Therefore, if wind speed is to be an input parameter for marine aerosol models, it might be necessary to include a time history for meaningful results.

The second input parameter to many aerosol models is the relative humidity. Figure 9 is a frequency-of-occurrence plot of relative humidity for our measurement period. The relative humidity does not have a large range, since less than 12% of the samples have values less than 80%. Even so, the cross-correlation calculations show a higher correlation with the particle parameters than did the wind speed. Again, the best correlation was with total particle volume. That plot is shown in Fig. 10.

A separate issue concerning relative humidity should also be mentioned here. The fact that the relative humidity usually remained about 80% makes our calculated extinction coefficients more believable, because for relative humidities below 70% the particles may no longer be primarily water and may also not be spherical, both of which assumptions are used for the calculations.

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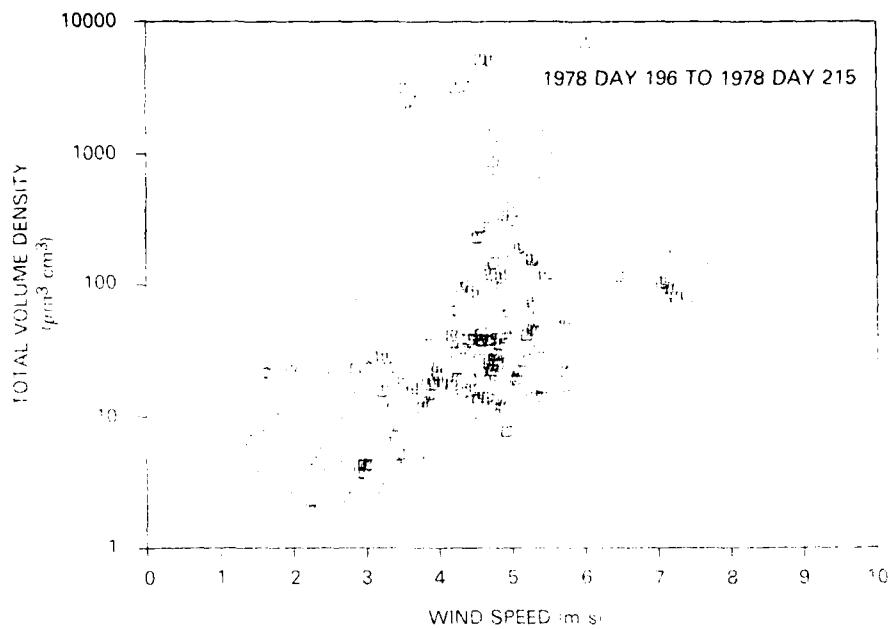


Fig. 8 — Total volume density of measured particles plotted vs wind speed

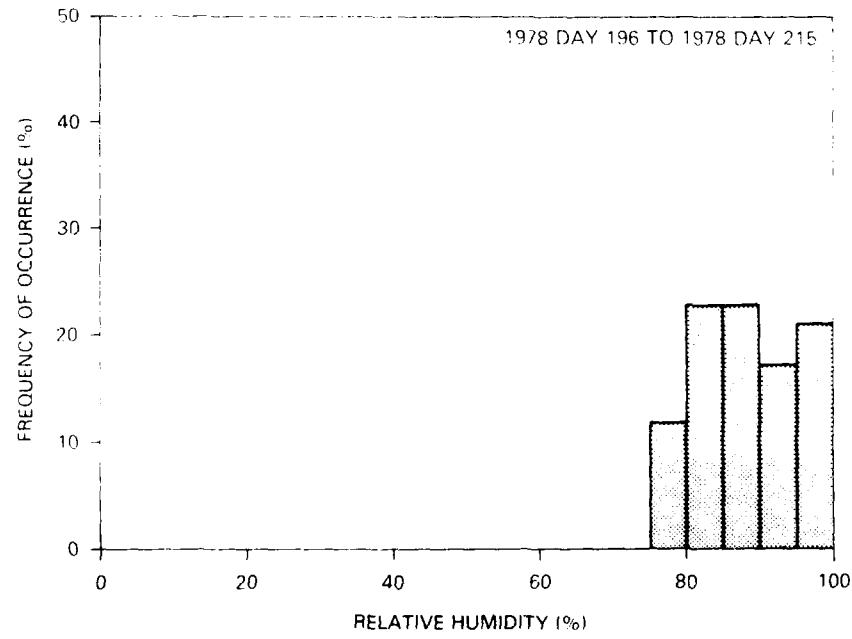


Fig. 9 — Frequency-of-occurrence plot of relative humidity

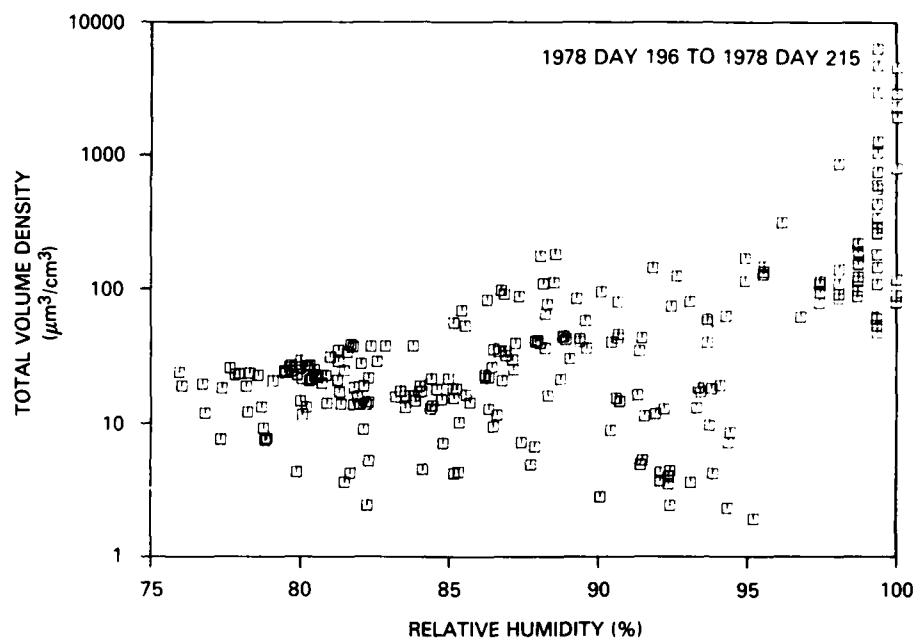


Fig. 10 — Total volume density of measured particles plotted vs relative humidity

Figure 11 shows that the variation in water vapor pressure during July was rather small, indicating that the extinction due to water vapor will be roughly that calculated for 1.2 kPa (9.0 torr) \pm 20%. Calculated extinction due to aerosols, on the other hand, varies considerably. Figures 12, 13, and 14 show the frequency-of-occurrence plots for the calculated aerosol extinction at 0.55 μm , 3.8 μm , and 10.0 μm , respectively. At all three wavelengths the variation is three orders of magnitude or more. Of course, when the molecular extinction is added for the infrared cases, the variation becomes much less. For example, for the 10- μm case, since 1.2 kPa (9.0 torr) of water vapor gives approximately 0.1 km^{-1} for extinction due to molecular absorption alone, (using the P(20) CO₂ laser line frequency), most of the values in Fig. 14 will be relatively insignificant. Thus, by calculating the appropriate 10.59- μm absorption for each 20-min-average of water vapor and adding it to the corresponding aerosol extinction, we find that the frequency-of-occurrence plot for total extinction shows over 90% of the readings clustered near the 0.1 km^{-1} value, as seen in Fig. 15. Similarly, for the 3.8- μm case the P₂(8) DF laser frequency gives a molecular extinction coefficient near 0.022 km^{-1} . Here the distribution shifts to the right and loses part of the left side, as Figure 16 depicts. However, for 3.8 μm the molecular extinction does not dominate as it does for 10.0 μm .

The point here is that if one wanted to predict 3.8- μm transmission it would be necessary to monitor both the water vapor and the particle size distribution, at least for a large portion of the 254 samples taken. For 10- μm transmission prediction for these same conditions, however, for over 90% of the time the aerosol measurements are superfluous.

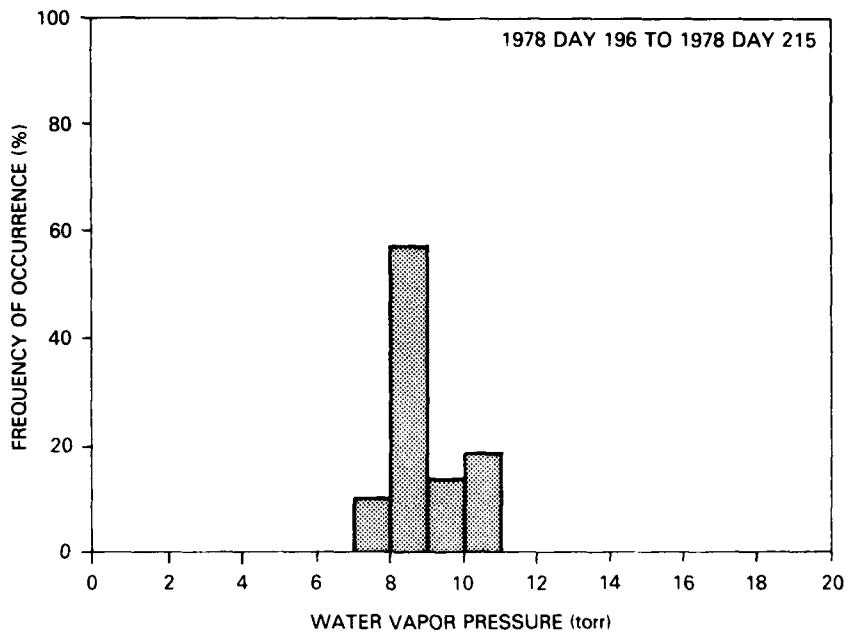


Fig. 11 — Frequency-of-occurrence plot of water vapor pressure (1 torr = 0.1333 kPa)

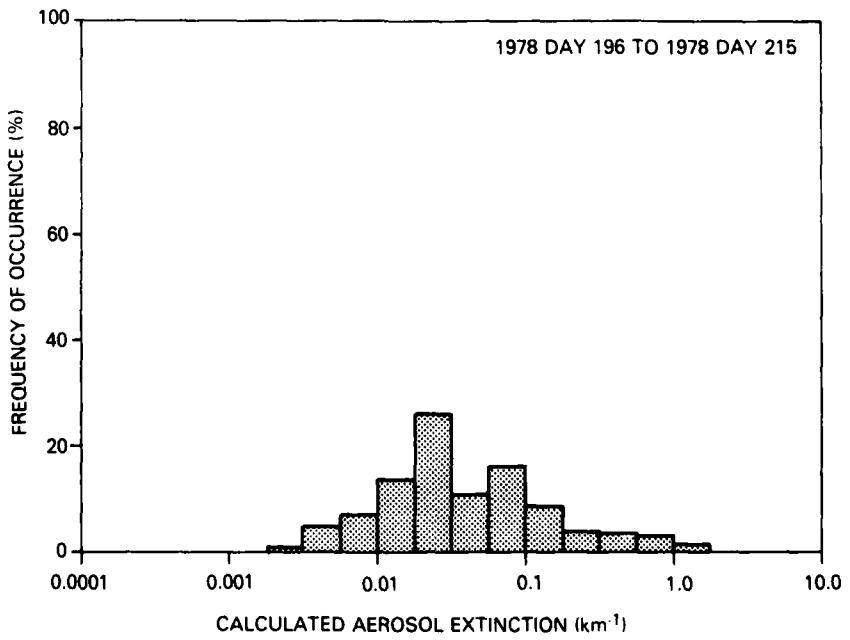


Fig. 12 — Frequency-of-occurrence plot of calculated aerosol extinction at 0.55 μm

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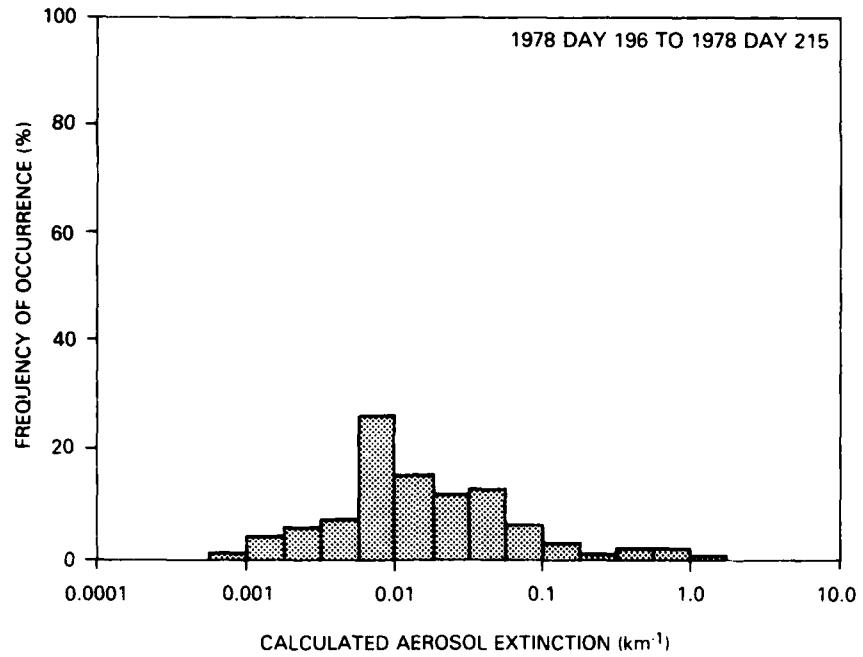


Fig. 13 — Frequency-of-occurrence plot of calculated aerosol extinction at 3.8 μm

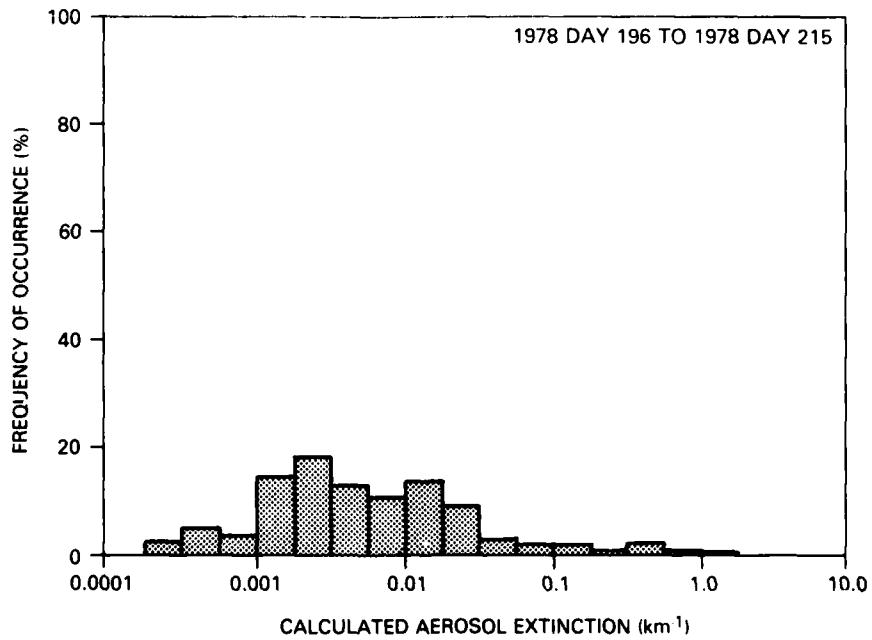


Fig. 14 — Frequency-of-occurrence plot of calculated aerosol extinction at 10.0 μm

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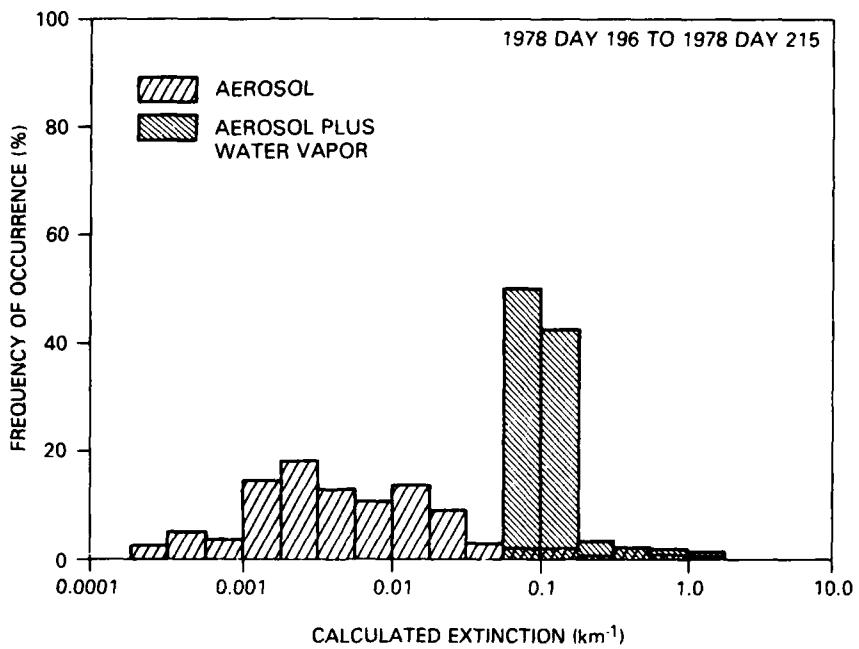


Fig. 15 — Frequency-of-occurrence plot of calculated extinction
at 10.0 μm with and without water-vapor contribution

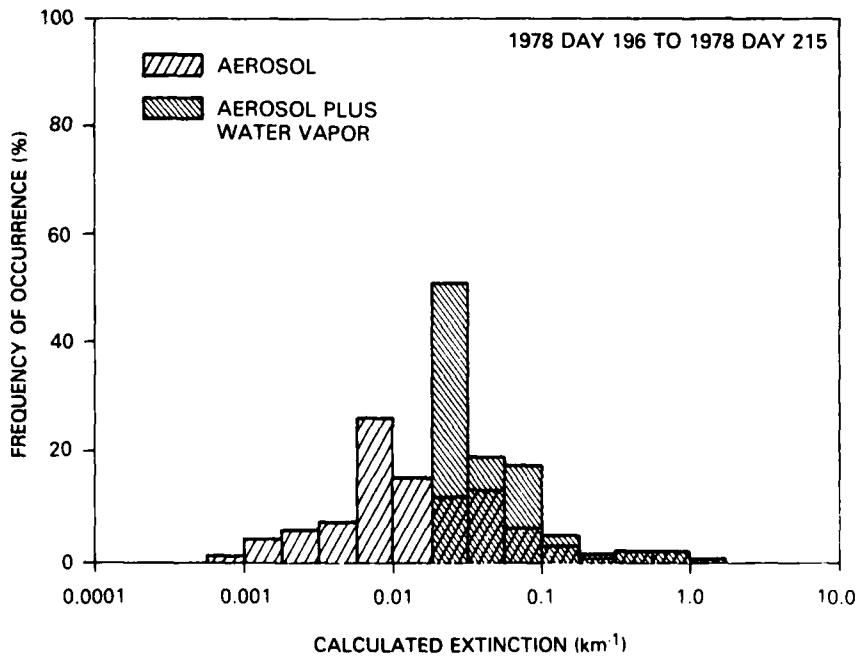


Fig. 16 — Frequency-of-occurrence plot of calculated extinction
at 3.8 μm with and without water-vapor contribution

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As a summary showing the wide variety of aerosol effects on extinction, Fig. 17 gives six calculated aerosol extinction vs wavelength plots. The criteria for selection of these examples were only that they cover a wide range and be spread evenly on the graph. There are several things to note in this figure. Most obvious is the range of values of extinction coefficient for any given wavelength, although the range is greatest for longer wavelengths. The latter fact is true because the largest extinction coefficient plot here is for a fog, where the particles are large, such that the scattering is nearly equally effective for all of the considered wavelengths. Note, also, the two samples where the curves actually cross. These two curves vividly point out the possible variation in slope of this function. The important point here is that the ratio of extinction coefficients at two wavelengths is not constant, as is assumed in marine aerosol models such as the one in LOWTRAN IIIB. Figure 18, which shows calculated 10- μm extinction plotted vs calculated 0.55- μm extinction, shows this as well. Although the correlation is fairly good, because of the log axis the scatter is well over an order of magnitude.

VISIBILITY OBSERVATIONS

This section is concerned with the Weather Service's visibility measurements. Their procedure is as follows: they go on deck, scan the horizon, then report the lowest visibility they encounter in the scan. On this particular cruise it was the rule, rather than the exception, that at least one direction presented a lower visibility when compared with the rest. That is, there was usually a low cloud, a patch of fog, or a rain squall in sight: these determined the visibility reading.

Thus, when the log showed a visibility of 2 km, our calculated visibility from concurrent aerosol measurements may have estimated 20 km. In fact, 20 km may have been the visibility looking in the direction opposite that used for the visual reading. Figure 19 summarizes this by showing the frequency-of-occurrence plot of the calculated aerosol extinction together with the extinction obtained from the visibility observations (using the Koschmieder relation, $\alpha = 3.91/V$) made by the Weather Service personnel.

The point is that some models for marine aerosols are derived from weather-ship data, and these models may attempt to predict the visibility from the wind speed and relative humidity. Obviously, something is amiss. Either the Weather Service will have to record more than just the lowest visibility or the modelers will have to look elsewhere for data.

AEROSOL EXTINCTION PREDICTIONS

Chylek and others [4,5] have suggested that, for long wavelengths, the aerosol extinction is proportional to the total liquid-water content in the aerosol. A large collection of data such as that reported here lends itself to checking such a proposal. With the assumption that the aerosol particles are water and spheres, Fig. 20 indicates that the proportionality does indeed hold for 10 μm for the data collected. In fact, it is quite remarkable considering the nearly four orders of magnitude of variation in the total volume. An attempt to extend this proportionality to visible wavelengths is not successful, however, as Fig. 21 clearly shows. On the other hand, the 0.55 μm extinction does exhibit a strong proportionality to another simple function of the aerosol, namely, the total cross section. The correlation is, in fact, even better than that for 10 μm with total volume. Figure 22 shows that correlation for our 254 twenty-minute samples.

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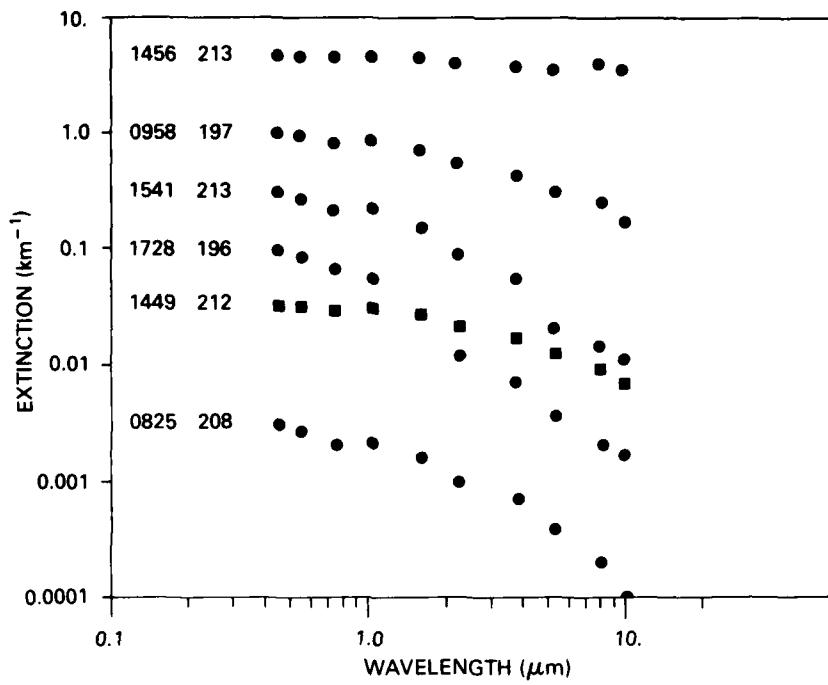


Fig. 17 — Aerosol extinctions plotted vs wavelength

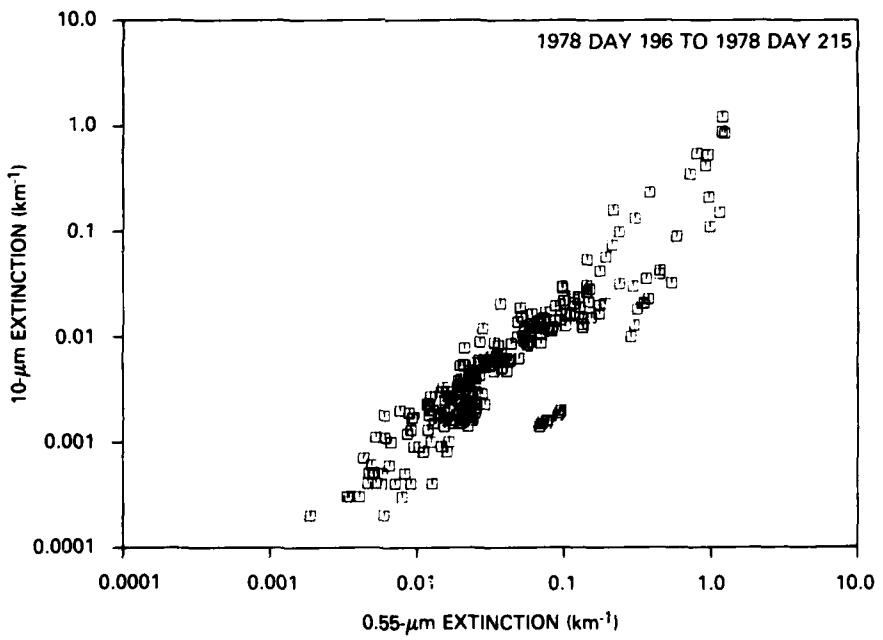


Fig. 18 — Calculated aerosol extinction at 10.0 μm plotted vs calculated aerosol extinction at 0.55 μm

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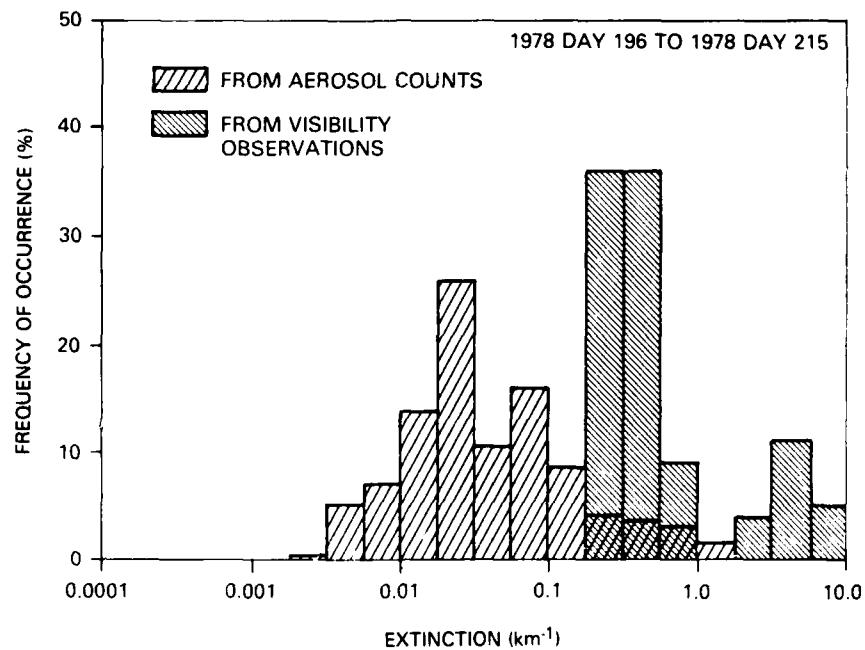


Fig. 19 — Calculated extinction at $0.55 \mu\text{m}$ compared with extinction visibility observations

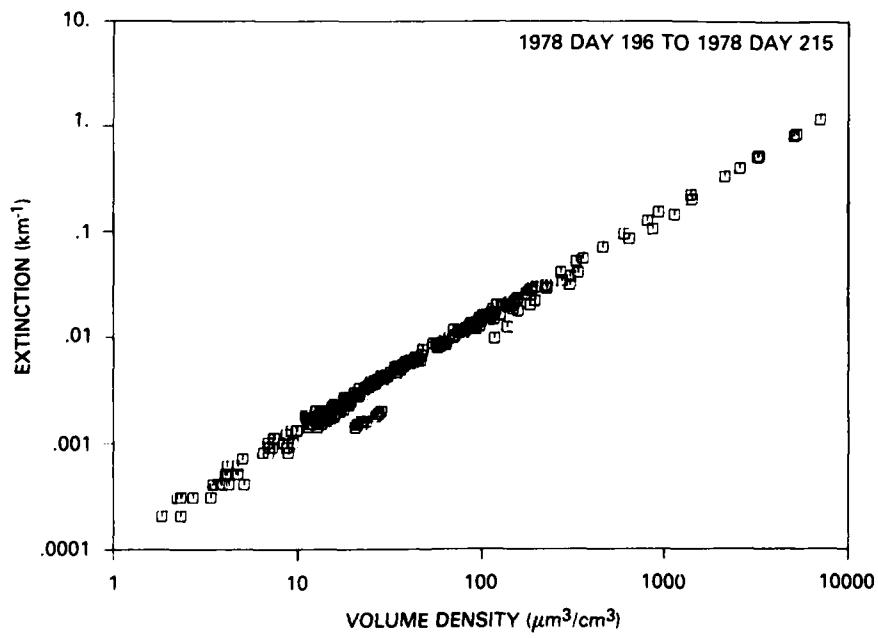


Fig. 20 — Calculated aerosol extinction at $10.0 \mu\text{m}$ plotted vs total volume density of particles (total liquid water)

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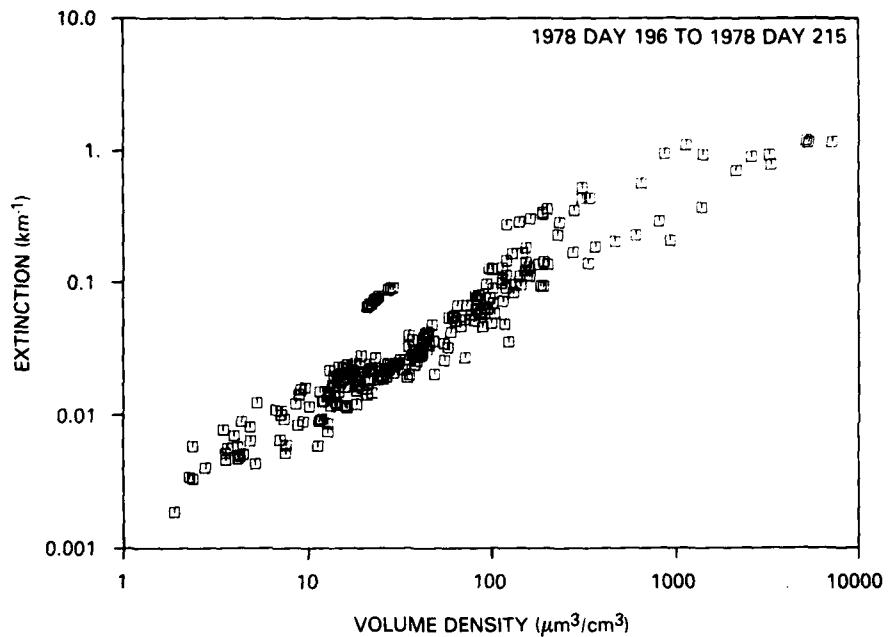


Fig. 21 — Calculated aerosol extinction at 0.55 μm plotted
vs total volume density of particles (total liquid water)

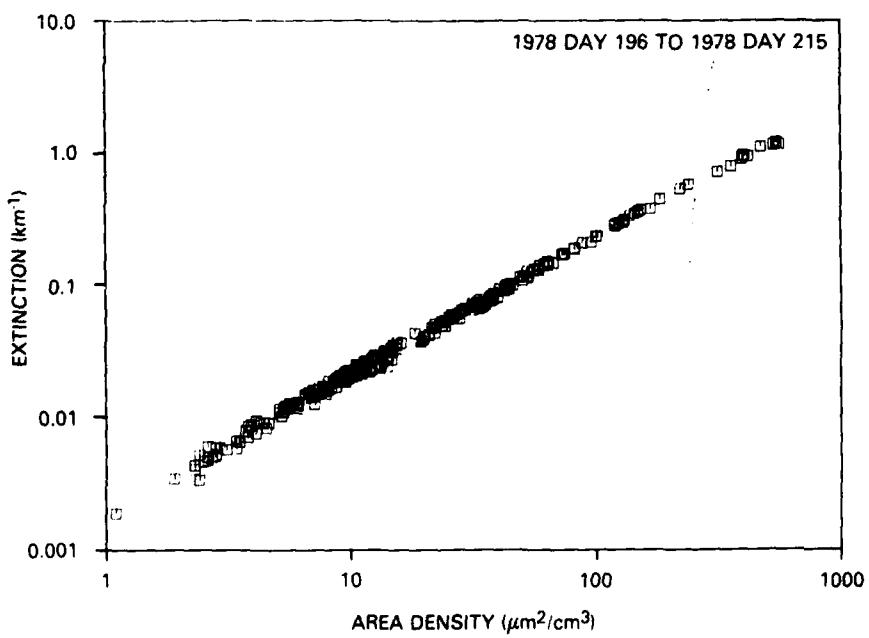


Fig. 22 — Calculated aerosol extinction at 0.55 μm plotted
vs total cross-sectional area density of particles

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Unfortunately, correlating other wavelengths with the simple functions number, area, and volume give less desirable results than do the two good ones shown here. Nevertheless, for predicting 10- μm aerosol extinction, a mass monitor that does not modify the sample could possibly do a good job. And for visibility predictions a device that monitors cross-sectional area would work well. Currently, a nephelometer best fits the requirements of the latter.

RECOMMENDATIONS

As noted earlier, one of the aims of the project was determining if the weather ship is suitable for making aerosol measurements that would satisfy the Navy's at-sea measurement requirements. Given that data are required for all types of weather and that this ship is not usable in bad weather, the conclusion is that it is not a suitable platform. High-wind data are needed for adequate testing of marine aerosol models.

When we have compared the shipboard results with land-based results, we may find the two sets of data much the same for similar wind speeds and relative humidities, or we may not. In either case, further measurements at sea and on land are recommended: at-sea measurements, because of the certainty of the lack of interference from surf and land-mass effects, and land-based measurements, because of needed comparisons with the more expensive and more difficult shipboard measurements.

For open-ocean studies, there are several recommendations. If a ship is used, it should be much larger than *Fitzroy*, so that easily accessible probe-mounting sites can assure damage-free operation of the probes during rough weather. Several choices for mounting heights would also be important for obtaining vertical profiles of the aerosol. Furthermore, if the ship is long enough a shipboard transmission measurement along the deck may be feasible along with the aerosol measurements.

For a ship that is not dedicated to the experiment, self-contamination is the worst problem; e.g., finding a place with clean air on a ship steaming with the wind may be impossible. Of course, prudent scheduling, with ship route and prevailing wind in mind, may alleviate the problem.

The alternative to a ship for open-ocean measurements is a sea platform such as used for drilling for oil. There, one could, for example, make high-resolution vertical aerosol profile measurements quite simply, compared with the problems associated with the same measurement aboard ship. Also, because the platforms would be usable in most weather as well, they would actually be preferable to a ship -- except for the obvious location limitation.

In conclusion, the reader should not infer that the measurements from the *Fitzroy* cruise are not useful. They are indeed useful, but unfortunately the data for high-wind conditions are conspicuously absent. Future measurements on a better platform would correct this. In the joint report with the U.K., we will discuss in detail the comparisons between the shipboard and land-based measurements. Therein may lie some indication as to how extensive future shipboard measurements should be.

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Appendix

AEROSOL DATA

As examples of marine atmosphere aerosol data, we have listed the 20-min averages of measurements that we made during the times the ship was stopped and turned into the wind. Tables A1a to A1e give the particle density distribution dN/dR ($\text{cm}^{-3} \mu\text{m}^{-1}$) as a function of the radius of the probe bin centers. For Probe 1 we give results from only the first seven bins. Due to a double-valued sensitivity in the detection response, the data for the larger size ranges of that probe have proven to be inconsistent in many instances. For the purpose of calculating extinction coefficients, we fit a line between the value for the seventh bin of Probe 1 (ASASP) and the first bin of Probe 2 (CSASP). For convenience, the radii chosen for the fitted line are the same as the remaining eight bin centers of Probe 1.

Tables A2a to A2f give meteorological parameters and, for four wavelengths, calculated extinction coefficients. (The extinction calculations do not include molecular absorption.)

We have listed the particle probe bin edges in Table A3 to aid those who may wish to put the aerosol data into a form different from the one we have chosen.

Although all 254 size distributions are in Tables A1a to A1e, we want to show one sample plot for each day. For simplicity we chose to plot only those data that occurred at 1000, 1200, or 1400 hours, whichever came first on that day. Day 205 gave the only exception. Figures A1a to A1o show the resulting 15 plots.

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Table A1a — Twenty-Minute Averages of dN/dR ($\text{cm}^{-3} \mu\text{m}^{-1}$) vs Radius (μm)
 (PROCESSED ON 27-APR-81)

PROGRAM A49GLT: AEROSOL DISTRIBUTION TURBULATION
NRL 6532: ON FITZPOY 5.03
RADIUS --> 5.97 6.93 7.88 8.83 9.78 10.73 11.68 12.63 13.58 14.53

78	196	1320	3.08E-05	6.16E-05	0.00E-01	0.00E-01	0.00E-01	3.08E-05	0.00E-01	0.00E-01	
1400	3.08E-05	6.16E-05	3.08E-05	6.16E-05	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	
1400	6.16E-05	1.23E-04	3.08E-05	6.16E-05	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	
1420	1.23E-04	2.3E-04	3.08E-05	6.16E-05	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	
1440	1.23E-04	6.16E-05	9.24E-05	0.00E-01	3.08E-05	3.08E-05	0.00E-01	3.08E-05	0.00E-01	0.00E-01	
1500	9.24E-05	1.54E-04	9.24E-05	6.16E-05	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	
1520	1.54E-04	1.54E-04	3.08E-05	6.16E-05	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	
1540	1.54E-04	9.24E-05	0.00E-01								
1600	9.24E-05	0.00E-01									
1620	6.16E-05	3.08E-05	0.00E-01	3.08E-05	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	
1640	1.23E-04	6.16E-05	0.00E-01	0.00E-01	3.08E-05	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	
1700	6.16E-05	3.08E-05	0.00E-01	3.08E-05	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	
1720	9.24E-05	0.00E-01									
1740	3.08E-05	0.00E-01	0.00E-01	0.00E-01	6.16E-05	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	
1800	0.00E-01	9.24E-05	3.08E-05	3.08E-05	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	0.00E-01	
78	197	820	2.80E-03	6.62E-04	1.42E-03	5.23E-04	4.93E-04	4.93E-04	3.08E-04	9.24E-05	
3200	5.02E-03	1.42E-03	2.09E-03	1.42E-03	2.09E-03	1.42E-03	2.09E-03	1.42E-03	6.16E-05	3.08E-05	
3200	2.09E-03	1.42E-03	3.08E-03	5.02E-03	2.09E-03	1.42E-03	2.09E-03	1.42E-03	6.16E-05	1.54E-04	
3200	5.02E-03	5.02E-02	1.42E-02	2.09E-02	1.42E-02	2.09E-02	1.42E-02	2.09E-02	1.42E-02	5.02E-03	
340	4.40E-02	4.07E-02	1.5E-02	1.5E-02	8.96E-03	8.96E-03	7.73E-03	5.42E-03	5.23E-03	5.85E-03	
1000	9.41E-02	8.73E-02	3.61E-02	4.58E-02	1.98E-02	1.98E-02	2.07E-02	2.03E-02	1.22E-02	3.15E-03	
1020	4.13E-02	3.45E-02	1.20E-02	1.61E-02	7.08E-03	7.08E-03	8.11E-03	8.22E-03	4.62E-03	2.42E-03	
1040	2.11E-02	1.49E-02	6.72E-03	8.31E-03	2.59E-03	3.57E-03	1.79E-03	1.51E-03	1.26E-03	6.16E-04	
1100	1.80E-02	1.56E-02	5.76E-03	6.65E-03	8.65E-03	2.92E-03	2.92E-03	2.09E-03	1.54E-03	9.54E-04	
1120	1.03E-02	8.28E-03	2.61E-03	4.62E-03	1.03E-03	1.91E-03	7.08E-03	4.62E-03	4.62E-04	4.62E-04	
1140	7.33E-03	5.45E-03	2.46E-03	3.73E-03	1.03E-03	1.66E-03	5.45E-03	3.08E-03	2.46E-04	1.54E-04	
1200	8.81E-03	5.51E-03	3.36E-03	3.48E-03	1.23E-03	1.23E-03	1.45E-03	9.45E-04	2.42E-04	2.42E-04	
1220	1.23E-02	8.31E-03	4.65E-03	6.46E-03	1.46E-03	2.16E-03	2.62E-03	1.20E-03	6.70E-04	7.08E-04	
1240	1.52E-02	1.24E-02	5.27E-03	7.79E-03	3.11E-03	3.36E-03	3.36E-03	2.03E-03	7.08E-04	7.08E-04	
1300	1.23E-02	1.04E-02	6.07E-03	6.91E-03	2.93E-03	2.93E-03	1.93E-03	1.39E-03	1.54E-03	8.95E-04	
1400	2.33E-02	1.61E-02	7.61E-03	1.13E-02	2.93E-03	5.02E-03	5.45E-03	2.93E-03	1.54E-04	2.71E-04	
1420	1.87E-02	1.59E-02	6.98E-03	1.11E-02	3.72E-03	4.83E-03	3.25E-03	1.39E-03	1.51E-03	1.70E-04	
1440	8.44E-03	5.13E-03	2.93E-03	4.71E-03	1.42E-03	2.25E-03	1.17E-03	8.62E-03	2.16E-04	2.16E-04	
1500	2.61E-03	7.88E-03	5.51E-03	8.88E-03	1.88E-03	2.59E-03	1.88E-03	1.82E-03	8.01E-04	4.31E-04	
1520	1.30E-03	6.09E-03	1.23E-03	4.53E-03	1.33E-03	2.56E-03	1.33E-03	1.70E-03	4.51E-04	3.39E-04	
1540	6.80E-03	6.19E-03	1.23E-03	4.49E-03	1.79E-03	2.28E-03	1.79E-03	1.35E-03	6.71E-04	3.69E-04	
1560	3.76E-03	4.80E-03	1.69E-03	4.40E-03	2.00E-03	2.00E-03	1.35E-03	6.62E-04	4.31E-04	4.00E-04	
78	198	1340	1.94E-02	1.70E-02	8.16E-03	7.76E-03	3.51E-03	4.74E-03	2.52E-03	1.66E-03	1.57E-03
1400	1.23E-02	9.08E-03	4.83E-03	4.34E-03	2.63E-03	1.60E-03	1.60E-03	1.82E-03	9.35E-04	8.62E-04	
1400	9.08E-03	4.70E-03	1.11E-03	1.11E-03	3.54E-03	1.79E-03	1.79E-03	9.54E-04	4.93E-04	3.69E-04	
1400	1.15E-02	5.11E-03	4.06E-03	3.54E-03	2.46E-03	1.51E-03	1.33E-03	2.23E-03	6.47E-04	5.08E-04	
1500	1.23E-02	3.82E-03	5.08E-03	3.05E-03	1.89E-03	4.46E-03	4.46E-03	2.56E-03	5.54E-04	6.77E-04	
1500	9.77E-03	9.77E-03	3.88E-03	4.90E-03	4.01E-03	4.01E-03	2.22E-03	2.56E-03	1.75E-04	9.51E-04	
1520	1.87E-02	9.54E-03	3.71E-03	3.73E-03	3.32E-03	1.51E-03	1.51E-03	1.79E-03	1.35E-03	1.74E-04	
1540	1.13E-02	4.16E-03	3.71E-03	4.16E-03	2.65E-03	1.48E-03	1.48E-03	1.71E-03	4.71E-04	7.0CE-04	
1560	1.07E-02	3.76E-03	4.80E-03	1.69E-03	1.91E-03	2.28E-03	1.91E-03	9.54E-04	6.47E-04	6.77E-04	
1580	1.07E-02	3.76E-03	4.80E-03	1.69E-03	1.91E-03	2.28E-03	1.91E-03	9.54E-04	6.47E-04	6.77E-04	
1600	1.51E-02	3.08E-03	3.45E-03	3.08E-03	3.08E-03	3.08E-03	3.08E-03	3.08E-03	0.00E-01	3.08E-05	
1620	6.11E-03	3.24E-03	3.08E-03	3.24E-03	3.08E-03	3.08E-03	3.08E-03	3.08E-03	0.00E-01	0.00E-01	
1640	3.40E-03	0.00E-01	0.00E-01								
1660	3.40E-03	0.00E-01	0.00E-01								
1680	3.40E-03	0.00E-01	0.00E-01								

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Table A1b – Twenty-Minute Averages of dN/dR ($\text{cm}^{-3} \mu\text{m}^{-1}$) vs Radius (μm)
 PRUARH1 A49GLT: AEROSOL DISTRIBUTION TABULATION
 (PROCESSED ON 27-APR-81)

NP1E532: 011 FIT2P0; RADIIUS ----;		0.12	0.15	0.18	0.22	0.26	0.29	0.33	1.23	2.18	3.12	4.03
78	201	920	0.00E+01	5.14E-02	1.71E-02	2.41E-01	2.32E+01	8.60E+00	7.53E+00	2.37E+01	1.55E+02	2.34E+03
78	201	940	0.00E+01	4.92E-02	1.33E-02	2.87E+01	2.24E+01	1.29E+01	1.66E+01	2.61E+01	1.65E+02	2.94E+03
78	201	960	0.00E+01	4.70E-02	1.44E-02	4.04E+01	2.15E+01	1.71E+01	1.13E+01	2.71E+01	1.61E+02	2.83E+03
78	201	980	0.00E+01	6.06E-02	1.69E-02	3.96E+01	2.41E+01	6.02E+00	1.05E+01	3.61E+01	1.96E+02	2.26E+03
78	201	1000	0.00E+01	6.95E-02	1.69E-02	4.65E+01	2.84E+01	1.03E+01	1.13E+01	5.42E+01	2.55E+02	2.86E+03
78	201	1020	0.00E+01	7.25E-02	1.35E+02	4.13E+01	1.12E+01	1.12E+01	6.05E+01	6.43E+01	3.67E+02	3.39E+03
78	201	1040	0.00E+01	1.30E-03	5.49E-02	1.87E+02	9.72E+01	6.28E+01	4.29E+01	4.29E+01	1.68E+02	1.68E+03
78	201	1060	0.00E+01	1.30E-03	6.76E-02	3.21E+02	2.04E+02	1.10E+02	9.49E+01	1.33E+00	1.14E+01	1.14E+02
78	201	1080	0.00E+01	1.43E-03	6.76E-02	3.61E+02	2.23E+02	1.49E+02	1.30E+02	1.45E+00	1.40E+01	3.81E+02
78	201	1100	0.00E+01	1.41E-03	6.73E-02	4.61E+02	3.32E+02	1.81E+01	1.81E+01	2.00E+02	1.35E+01	1.36E+02
78	201	1120	0.00E+01	1.34E-03	8.26E-02	4.34E+02	3.20E+02	1.60E+02	1.40E+02	9.64E+01	1.54E+01	5.90E+02
78	201	1140	0.00E+01	1.43E-03	9.35E-02	4.93E+02	2.91E+02	1.55E+02	1.20E+02	1.68E+00	2.17E+01	5.90E+02
78	201	1160	0.00E+01	1.55E-02	4.95E+01	3.44E+01	3.18E+01	7.74E+00	1.43E+01	3.23E+01	8.81E+02	4.39E+02
78	201	1180	0.00E+01	1.51E-02	6.56E+01	3.70E+01	4.47E+01	9.46E+00	1.73E+01	4.11E+01	9.44E+02	4.03E+02
78	201	1200	0.00E+01	2.38E-02	9.57E+01	5.95E+01	6.65E+01	2.24E+01	2.40E+01	2.75E+01	3.29E+02	5.23E+03
78	201	1220	0.00E+01	1.38E-02	7.03E+01	5.27E+01	5.27E+01	1.81E+01	1.28E+01	1.73E+01	2.00E+02	1.97E+03
78	201	1240	0.00E+01	8.41E-02	2.78E+02	8.73E+01	8.52E+01	4.65E+01	7.45E+01	9.42E+01	6.01E+02	1.90E+03
78	203	1200	0.00E+01	1.55E-01	1.55E-02	4.95E+01	3.44E+01	3.18E+01	7.74E+00	1.43E+01	3.23E+01	8.81E+02
78	203	1220	0.00E+01	1.51E-01	6.56E+01	3.70E+01	4.47E+01	9.46E+00	1.73E+01	4.11E+01	9.44E+02	4.03E+02
78	203	1240	0.00E+01	1.38E-01	7.03E+01	5.27E+01	5.27E+01	1.81E+01	1.28E+01	1.73E+01	2.00E+02	1.97E+03
78	203	1260	0.00E+01	8.41E-01	2.78E+02	8.73E+01	8.52E+01	4.65E+01	7.45E+01	9.42E+01	6.01E+02	1.90E+03
78	205	1840	0.00E+01	4.19E-02	1.52E+02	3.72E+01	1.81E+01	1.81E+01	1.63E+01	1.58E+01	1.09E+00	1.23E+01
78	205	1900	0.00E+01	3.48E-02	1.24E+02	1.56E+01	1.83E+01	1.45E+00	8.29E+00	8.29E+00	1.09E+00	1.11E+01
78	205	1920	0.00E+01	2.30E-02	9.20E+01	2.44E+01	5.95E+01	1.20E+01	2.40E+01	1.88E+01	1.93E+01	3.13E+02
78	205	1940	0.00E+01	2.34E-02	8.10E+01	1.38E+01	1.38E+01	1.55E+01	6.00E+00	6.02E+00	8.93E+01	1.34E+02
78	205	1960	0.00E+01	2.13E-02	9.03E+01	1.73E+01	1.72E+01	1.81E+01	6.00E+00	1.40E+01	1.45E+01	1.77E+02
78	205	1980	0.00E+01	2.13E-02	9.07E+01	1.73E+01	1.72E+01	1.81E+01	6.00E+00	1.40E+01	1.45E+01	1.77E+02
78	205	2000	0.00E+01	2.34E-02	8.10E+01	1.38E+01	1.38E+01	1.55E+01	6.00E+00	1.40E+01	1.45E+01	1.77E+02
78	205	2020	0.00E+01	2.13E-02	9.03E+01	1.73E+01	1.72E+01	1.81E+01	6.00E+00	1.40E+01	1.45E+01	1.77E+02
78	205	2040	0.00E+01	2.34E-02	8.10E+01	1.38E+01	1.38E+01	1.55E+01	6.00E+00	1.40E+01	1.45E+01	1.77E+02
78	205	2060	0.00E+01	2.37E-02	8.23E+01	1.74E+01	1.74E+01	1.82E+01	6.02E+00	6.02E+00	5.47E+01	6.37E+02
78	205	2080	0.00E+01	2.53E-02	8.50E+01	1.63E+01	1.63E+01	1.81E+01	6.03E+00	6.53E+00	5.28E+01	6.72E+02
78	205	2100	0.00E+01	2.17E-02	8.50E+01	2.06E+01	1.38E+01	6.02E+00	6.78E+00	5.78E+00	5.21E+01	6.88E+02
78	205	2120	0.00E+01	2.17E-02	8.50E+01	2.06E+01	1.38E+01	6.02E+00	6.78E+00	5.78E+00	5.21E+01	6.88E+02
78	205	2140	0.00E+01	2.17E-02	8.50E+01	2.06E+01	1.38E+01	6.02E+00	6.78E+00	5.78E+00	5.21E+01	6.88E+02
78	205	2160	0.00E+01	2.17E-02	8.50E+01	2.06E+01	1.38E+01	6.02E+00	6.78E+00	5.78E+00	5.21E+01	6.88E+02
78	205	2180	0.00E+01	1.01E-02	3.51E+02	7.92E+01	5.59E+01	2.49E+01	1.96E+01	1.92E+00	1.91E+01	3.85E+02
78	205	2200	0.00E+01	1.01E-02	3.75E+02	1.02E+02	4.99E+01	2.75E+01	2.41E+01	2.07E+00	2.33E+01	4.59E+02
78	205	2220	0.00E+01	1.04E-02	3.51E+02	9.39E+01	5.15E+01	2.93E+01	3.24E+01	2.12E+01	2.54E+01	5.95E+02
78	205	2240	0.00E+01	3.17E-02	6.05E+02	6.05E+01	6.02E+01	3.13E+01	2.09E+01	2.20E+01	2.14E+01	2.22E+02
78	205	2260	0.00E+01	9.00E-02	3.00E+02	6.28E+01	4.75E+01	4.75E+01	3.39E+01	2.90E+01	5.33E+01	6.05E+02
78	205	2280	0.00E+01	1.12E-02	4.33E+02	6.38E+01	5.51E+01	5.51E+01	3.71E+01	2.71E+01	6.06E+01	6.09E+02
78	205	2300	0.00E+01	4.00E-02	8.57E+01	1.55E+01	8.09E+01	8.09E+01	6.39E+00	6.28E+00	8.61E+01	8.61E+02
78	205	2320	0.00E+01	4.00E-02	8.23E+01	1.74E+01	6.02E+01	6.02E+01	8.09E+00	8.09E+00	6.73E+01	6.73E+02
78	205	2340	0.00E+01	1.12E-02	4.33E+02	1.14E+02	8.09E+01	5.51E+01	5.51E+01	2.43E+00	2.43E+01	2.17E+02
78	205	2360	0.00E+01	1.01E-02	1.03E+02	1.03E+02	8.09E+01	4.13E+01	3.99E+01	2.09E+00	2.09E+01	2.17E+02
78	205	2380	0.00E+01	8.83E-02	4.01E+02	1.17E+02	8.00E+01	4.56E+01	4.56E+01	2.09E+00	2.09E+01	2.17E+02
78	205	2400	0.00E+01	9.30E-02	4.08E+02	1.08E+02	8.00E+01	5.33E+01	4.13E+01	3.49E+00	3.49E+01	2.17E+02
78	205	2420	0.00E+01	8.99E-02	3.94E+02	1.16E+02	6.54E+01	5.33E+01	3.65E+01	4.14E+00	1.83E+01	2.17E+02
78	205	2440	0.00E+01	9.35E-02	3.72E+02	1.07E+02	7.40E+01	4.22E+01	2.73E+01	1.03E+00	1.51E+01	2.17E+02
78	205	2460	0.00E+01	9.36E-02	3.64E+02	1.11E+02	5.68E+01	3.35E+01	1.73E+01	1.11E+00	1.78E+01	2.17E+02
78	207	1160	0.00E+01	2.55E-02	7.33E+01	1.38E+01	1.38E+01	1.03E+01	3.44E+01	3.44E+01	4.53E+00	1.51E+01
78	207	1170	0.00E+01	2.55E-02	8.09E+01	2.06E+01	2.06E+01	1.63E+01	4.54E+00	4.54E+00	4.53E+00	1.51E+01
78	207	1180	0.00E+01	2.32E-02	6.53E+01	1.63E+01	1.63E+01	8.60E+00	2.55E+00	2.55E+00	3.76E+00	1.51E+01
78	207	1190	0.00E+01	4.01E-02	1.73E+02	2.67E+01	1.55E+01	1.55E+01	7.74E+00	6.78E+00	2.30E+01	1.51E+01
78	207	1200	0.00E+01	4.01E-02	1.73E+02	2.74E+01	1.55E+01	1.55E+01	7.74E+00	6.78E+00	2.30E+01	1.51E+01
78	207	1210	0.00E+01	3.75E-02	7.83E+01	2.13E+01	2.13E+01	9.46E+00	5.16E+00	5.16E+00	4.52E+00	1.51E+01
78	207	1220	0.00E+01	3.75E-02	7.83E+01	2.13E+01	2.13E+01	9.46E+00	5.16E+00	5.16E+00	4.52E+00	1.51E+01
78	207	1230	0.00E+01	4.13E-02	7.73E+01	2.13E+01	2.13E+01	9.46E+00	5.16E+00	5.16E+00	4.52E+00	1.51E+01
78	207	1240	0.00E+01	4.13E-02	7.73E+01	2.13E+01	2.13E+01	9.46E+00	5.16E+00	5.16E+00	4.52E+00	1.51E+01
78	207	1250	0.00E+01	4.13E-02	7.73E+01	2.13E+01	2.13E+01	9.46E+00	5.16E+00	5.16E+00	4.52E+00	1.51E+01
78	207	1260	0.00E+01	4.13E-02	7.73E+01	2.13E+01	2.13E+01	9.46E+00	5.16E+00	5.16E+00	4.52E+00	1.51E+01
78	207	1270	0.00E+01	4.13E-02	7.73E+01	2.13E+01	2.13E+01	9.46E+00	5.16E+00	5.16E+00	4.52E+00	1.51E+01
78	207	1280	0.00E+01	4.13E-02	7.73E+01	2.13E+01	2.13E+01	9.46E+00	5.16E+00	5.16E+00	4.52E+00	1.51E+01
78	207	1290	0.00E+01	4.13E-02	7.73E+01	2.13E+01	2.13E+01	9.46E+00	5.16E+00	5.16E+00	4.52E+00	1.51E+01
78	207	1300	0.00E+01	4.13E-02	7.73E+01	2.13E+01	2.13E+01	9.46E+00	5.16E+00	5.16E+00	4.52E+00	1.51E+01
78	207	1310	0.00E+01	4.13E-02	7.73E+01	2.13E+01	2.13E+01	9.46E+00	5.16E+00	5.16E+00	4.52E+00	1.51E+01
78	207	1320	0.00E+01	4.13E-02	7.							

Table A1b (Continued)
 (PROCESSED ON 27-APR-81)

PROGRAM A49GLT: AEROSOL DISTRIBUTION TABULATION										
NP16532: OH FITZPOI'		RADIIUS -->		5.03		5.97		6.93		
78	201	920	4.62E-04	2.16E-04	1.54E-04	6.16E-05	3.08E-05	0.00E-01	3.08E-05	
		940	7.03E-04	1.23E-04	1.85E-04	1.23E-04	2.16E-04	3.08E-05	3.08E-05	
1000	6.47E-04	3.08E-04	2.46E-04	2.46E-04	2.16E-04	6.16E-05	3.08E-05	0.00E-01	0.00E-01	
1020	5.23E-04	3.62E-04	2.39E-04	2.46E-04	2.16E-04	6.16E-05	3.08E-05	0.00E-01	0.00E-01	
1040	3.08E-04	2.16E-04	2.39E-04	2.46E-04	2.16E-04	6.16E-05	3.08E-05	0.00E-01	0.00E-01	
1100	2.77E-04	3.08E-03	1.52E-03	1.52E-03	9.24E-05	3.08E-05	0.00E-01	0.00E-01	0.00E-01	
1300	3.51E-03	1.48E-03	5.23E-03	2.86E-03	7.70E-04	5.23E-04	1.85E-04	3.08E-05	3.08E-05	
1320	6.13E-03	2.33E-03	2.33E-03	2.12E-03	1.32E-03	1.39E-03	6.16E-04	1.02E-03	1.02E-03	
1340	6.03E-03	3.63E-03	2.96E-03	2.80E-03	1.38E-03	1.45E-03	1.08E-03	1.05E-03	4.53E-04	
1400	8.36E-03	4.56E-03	4.56E-03	4.20E-03	1.62E-03	2.59E-03	1.29E-03	9.85E-04	3.69E-04	
1420	8.25E-03	3.62E-03	4.16E-03	4.16E-03	1.43E-03	1.62E-03	1.05E-03	6.42E-04	4.29E-04	
1440	1.64E-02	5.85E-03	6.93E-03	6.93E-03	3.26E-03	3.05E-03	2.25E-03	6.42E-04	6.42E-04	
78	203	1200	8.68E-03	5.05E-03	3.97E-03	3.48E-03	1.66E-03	2.00E-03	1.20E-03	
		1220	6.87E-03	3.57E-03	2.68E-03	1.94E-03	8.01E-04	1.45E-03	8.31E-04	
1240	3.23E-03	3.66E-03	1.66E-03	3.66E-03	2.12E-03	2.62E-03	1.62E-03	2.12E-03	2.46E-03	
1300	1.26E-03	1.11E-03	8.01E-04	1.29E-03	8.31E-04	8.31E-04	1.02E-03	8.62E-04	1.39E-03	
1320	7.54E-03	5.76E-03	2.96E-03	4.53E-03	1.96E-03	1.57E-03	2.52E-03	2.00E-03	1.11E-03	
78	205	1840	6.87E-03	3.38E-03	2.56E-03	2.46E-03	1.26E-03	8.62E-04	3.39E-04	
		1900	7.24E-03	3.35E-03	2.89E-03	1.54E-03	1.60E-03	1.02E-03	8.62E-04	4.00E-04
1320	3.97E-03	2.23E-03	1.9E-03	2.18E-03	1.08E-03	1.08E-03	7.0E-04	4.00E-04	4.93E-04	
1940	4.68E-03	2.28E-03	1.69E-03	1.69E-03	8.93E-04	5.54E-04	4.00E-04	1.85E-04	1.23E-04	
2000	2.80E-03	1.76E-03	1.02E-03	6.77E-04	4.23E-04	4.93E-04	1.86E-04	3.08E-04	1.77E-04	
2020	2.95E-03	1.12E-03	7.0E-04	7.0E-04	3.08E-04	3.59E-04	1.1E-04	6.16E-05	6.16E-05	
2040	2.06E-03	1.54E-03	7.39E-04	7.77E-04	2.77E-04	1.85E-04	1.54E-04	3.08E-05	3.08E-05	
2100	2.95E-03	2.06E-03	7.29E-04	5.23E-04	1.65E-04	4.31E-04	3.68E-04	6.16E-05	6.16E-05	
2120	3.42E-03	1.79E-03	1.32E-03	1.33E-03	1.70E-04	5.23E-04	5.54E-04	1.85E-04	2.46E-04	
2140	3.32E-03	2.53E-03	1.45E-03	1.20E-03	9.24E-04	6.47E-04	6.47E-04	2.08E-04	1.54E-04	
78	206	1140	7.76E-03	4.06E-03	2.68E-03	2.12E-03	1.57E-03	1.26E-03	8.62E-04	
		1200	9.38E-03	5.67E-03	4.01E-03	2.99E-03	2.00E-03	1.23E-03	7.0E-04	
1220	9.85E-03	5.0E-03	4.37E-03	5.12E-03	1.85E-03	1.20E-03	1.0E-03	7.33E-04	6.15E-04	
1240	1.02E-02	5.16E-03	4.89E-03	2.90E-03	2.43E-03	3.51E-03	1.53E-03	4.93E-04	3.12E-04	
1500	1.08E-02	6.93E-03	4.18E-03	3.20E-03	2.40E-03	1.72E-03	1.06E-03	8.43E-04	3.13E-04	
1320	1.21E-02	6.19E-03	5.06E-03	3.27E-03	2.40E-03	1.65E-03	1.78E-03	5.92E-04	5.62E-04	
1340	6.13E-02	6.15E-03	5.15E-03	5.44E-03	2.11E-03	2.75E-03	1.91E-03	6.74E-04	1.13E-04	
1400	2.00E-02	1.13E-02	6.46E-03	5.92E-03	4.65E-03	2.71E-03	3.1E-03	2.06E-03	1.14E-03	
1420	1.81E-02	1.05E-02	7.15E-03	6.72E-03	4.65E-03	3.93E-03	2.63E-03	2.15E-03	1.36E-03	
1440	6.62E-03	3.81E-03	2.93E-03	2.93E-03	8.87E-03	1.28E-03	1.45E-03	8.43E-04	7.45E-04	
1500	4.95E-03	2.51E-03	2.99E-03	1.95E-03	1.95E-03	1.95E-03	2.15E-03	9.18E-04	5.62E-04	
1520	6.74E-03	3.16E-03	2.87E-03	2.15E-03	1.95E-03	1.95E-03	1.63E-03	9.36E-04	6.97E-04	
1540	6.43E-03	4.7E-03	3.46E-03	2.90E-03	2.84E-03	2.15E-03	2.77E-03	1.15E-03	8.43E-04	
78	207	816	3.79E-01	3.65E-01	9.24E-01	1.65E-01	0.00E-01	3.00F-05	5.16E-05	0.00F-01
		916	2.71E-01	1.14E-01	1.54E-01	6.11E-01	3.02E-01	0.00E-01	6.14E-01	5.01E-01
910	1.81E-01	1.51E-01	1.51E-01	9.11E-01	9.11E-01	9.11E-01	9.11E-01	0.00E-01	0.00E-01	
940	5.85E-01	1.55E-01	9.24E-01	9.24E-01	6.16E-01	6.16E-01	6.16E-01	0.00E-01	0.00E-01	
1000	1.02E-01	3.02E-01	4.33E-01	4.33E-01	3.03E-01	3.03E-01	3.03E-01	0.00E-01	0.00E-01	
1010	1.61E-01	5.83E-01	6.01E-01	6.01E-01	3.46E-01	3.46E-01	6.16E-01	0.00E-01	0.00E-01	
1040	7.70E-01	2.44E-01	1.85E-01	1.85E-01	1.21E-01	1.21E-01	6.42E-01	0.00E-01	0.00E-01	
1100	4.51E-01	1.15E-01	1.15E-01	1.15E-01	1.82E-01	1.82E-01	6.16E-01	0.00E-01	0.00E-01	
1120	4.06E-01	1.74E-01	1.74E-01	1.74E-01	1.16E-01	1.16E-01	6.16E-01	0.00E-01	0.00E-01	
1140	3.39E-01	3.08E-01	9.24E-01	6.16E-01	3.08E-01	3.08E-01	6.16E-01	0.00E-01	0.00E-01	

TRUSTY AND COSDEN

Table A1c – Twenty-Minute Averages of dN/dr ($\text{cm}^{-3} \mu\text{m}^{-1}$) vs Radius (μm)
 AEROSOL DISTRIBUTION THERMISTOR
 (REFINED ON 27-SEP-2011)

Table A1c (Continued)
(PROCESSED ON 27-HPR-61)

PFNUISPH1.HM1HLT: REFUSOL DISTRIBUTION THERULATION									
NP16532: ON FIT2POY		S.03		5.97		6.93		7.88	
Radius	---	5.	5.	5.	5.	5.	5.	5.	5.
1.3	207	1200	4.62E-04	2.16E-04	9.24E-05	1.54E-04	1.54E-04	6.16E-05	3.08E-05
1.238	1.238	1.35E-03	5.23E-04	7.70E-04	3.88E-04	4.62E-04	3.69E-04	2.77E-04	1.24E-04
1.149	1.149	9.85E-04	4.31E-04	4.62E-04	2.46E-04	6.16E-05	1.23E-04	1.54E-04	3.08E-05
1.1540	1.1540	1.61E-03	5.23E-04	8.62E-04	1.23E-04	3.08E-04	2.46E-04	1.23E-04	1.01E-04
1.400	1.205	1.205E-03	4.63E-04	8.315E-04	1.23E-04	1.65E-04	1.65E-04	1.23E-04	1.01E-04
1.429	1.429	2.34E-03	9.55E-04	4.62E-04	7.39E-04	1.65E-04	1.65E-04	1.23E-04	1.01E-04
1.1410	1.210	2.25E-13	4.62E-04	7.70E-04	6.16E-04	2.16E-04	1.85E-04	9.24E-05	1.15E-05
1.440	1.638E-13	6.71E-04	8.315E-04	3.98E-04	2.46E-04	1.85E-04	2.46E-04	1.23E-04	5.01E-05
1.520	1.520	7.70E-03	4.93E-04	4.93E-04	3.98E-04	1.85E-04	1.85E-04	1.23E-04	6.16E-05
1.540	7.038E-04	4.62E-04	2.16E-04	6.16E-04	6.16E-05	3.08E-05	3.08E-05	1.23E-04	1.01E-04
1.600	5.54E-04	1.23E-04	2.16E-04	6.16E-04	6.16E-05	3.08E-05	3.08E-05	1.23E-04	1.01E-04
1.620	6.47E-04	2.71E-04	2.46E-04	2.71E-04	6.16E-05	1.23E-04	1.23E-04	6.16E-05	1.01E-04
1.640	4.62E-04	4.93E-04	2.16E-04	6.16E-05	6.16E-05	2.00E-01	2.00E-01	6.16E-05	1.01E-01
7.8	208	820	9.24E-05	3.08E-05	3.08E-05	9.08E-01	6.16E-05	7.08E-05	9.08E-05
8.40	6.16E-05	3.08E-05	9.24E-05	7.08E-05	7.08E-05	9.08E-01	9.08E-01	9.08E-05	9.08E-05
9.00	2.45E-04	9.24E-05	1.23E-04	9.24E-05	9.24E-05	9.08E-01	9.08E-01	9.08E-05	9.08E-05
9.20	2.77E-04	6.00E-01	1.23E-04	1.54E-04	1.54E-05	3.08E-05	6.16E-05	6.16E-05	6.16E-01
9.40	3.39E-04	1.23E-04	1.23E-04	6.16E-05	9.24E-05	1.23E-04	6.16E-05	3.08E-05	9.08E-01
1.000	1.85E-04	6.16E-05	9.24E-05	3.08E-05	5.08E-05	9.08E-01	9.08E-01	9.08E-05	9.08E-01
1.020	9.24E-04	4.00E-04	5.23E-04	4.00E-04	3.08E-04	9.08E-01	9.08E-01	9.08E-05	9.08E-01
1.040	3.08E-04	2.48E-04	1.85E-04	1.85E-04	9.24E-05	9.24E-05	9.24E-05	6.16E-05	9.24E-05
1.100	1.85E-04	6.16E-05	3.08E-05	6.16E-05	1.23E-04	1.23E-04	1.23E-04	6.16E-05	9.08E-05
1.120	6.00E-01	3.08E-05	1.23E-04	1.23E-04	1.23E-04	6.16E-05	6.16E-05	6.16E-05	6.16E-01
1.220	1.02E-13	2.71E-04	5.85E-04	1.54E-04	1.54E-04	3.08E-05	9.08E-01	9.08E-01	9.08E-05
1.240	8.315E-04	3.08E-04	4.00E-04	3.24E-05	2.77E-05	1.23E-04	3.08E-05	3.08E-05	6.16E-05
1.300	1.35E-02	4.62E-04	4.93E-04	3.62E-04	1.85E-04	1.85E-04	1.23E-04	1.23E-04	9.08E-05
1.320	1.29E-03	5.54E-04	3.62E-04	2.16E-04	2.16E-04	2.16E-04	6.16E-05	6.16E-05	6.16E-05
1.340	9.85E-04	7.08E-04	2.46E-04	2.46E-04	3.08E-05	1.23E-04	1.23E-04	6.16E-05	6.16E-05
1.400	8.62E-04	8.31E-04	1.23E-04	1.23E-04	1.23E-04	2.46E-04	2.46E-04	2.46E-05	6.16E-05
1.420	8.315E-04	3.69E-04	2.77E-04	1.85E-04	2.46E-04	1.54E-04	3.08E-05	6.16E-05	9.24E-05
1.440	1.05E-03	4.31E-04	5.85E-04	4.31E-04	3.38E-04	1.85E-04	1.85E-04	1.54E-04	6.16E-05
1.500	8.93E-04	4.62E-04	4.62E-04	2.16E-04	2.16E-04	2.16E-04	6.16E-05	6.16E-05	6.16E-01
1.520	1.39E-03	1.05E-03	6.16E-04	4.00E-04	2.16E-04	1.66E-04	2.16E-04	2.16E-05	6.16E-01
1.540	1.42E-03	1.20E-03	6.16E-04	2.16E-04	2.16E-04	2.16E-04	2.16E-04	2.16E-05	6.16E-01
1.600	1.29E-03	8.62E-04	3.08E-04	1.54E-04	1.54E-04	2.16E-04	2.16E-04	1.54E-04	3.08E-05
1.620	2.16E-03	1.11E-03	8.31E-04	7.08E-04	5.54E-04	3.08E-04	3.08E-04	1.23E-04	1.54E-04
1.640	1.45E-03	8.01E-04	7.08E-04	3.39E-04	2.77E-04	1.23E-04	2.46E-04	1.85E-04	3.08E-05
1.700	2.52E-03	1.79E-03	1.17E-03	1.17E-03	7.08E-04	1.23E-04	1.23E-04	6.16E-05	6.16E-05
1.720	1.72E-02	1.25E-03	1.32E-03	4.93E-04	6.77E-04	3.08E-04	3.08E-04	2.16E-04	2.77E-04
1.740	1.39E-03	8.62E-04	3.62E-04	5.23E-04	5.23E-04	2.16E-04	2.16E-04	1.23E-04	9.24E-05
1.800	1.05E-03	1.54E-03	8.31E-04	5.93E-04	5.93E-04	5.93E-04	5.93E-04	1.23E-04	1.23E-05
1.820	2.16E-03	1.11E-03	6.47E-04	4.62E-04	2.77E-04	1.23E-04	2.77E-04	2.77E-04	1.01E-01
1.840	1.07E-03	6.16E-04	3.08E-04	2.46E-04	1.66E-04	1.66E-04	1.66E-04	1.23E-04	1.01E-01
1.900	1.45E-03	9.35E-04	5.62E-04	3.43E-04	2.81E-04	2.81E-04	2.81E-04	1.54E-04	1.54E-05
1.920	1.65E-03	6.55E-04	4.62E-04	1.25E-04	2.16E-04	2.16E-04	2.16E-04	1.23E-04	3.12E-05
1.940	2.47E-03	1.18E-03	8.74E-04	8.74E-04	5.36E-04	5.36E-04	5.36E-04	1.54E-04	1.54E-05
1.960	2.56E-03	1.31E-03	9.67E-04	5.36E-04	2.18E-04	2.18E-04	2.18E-04	1.54E-04	1.54E-05
7.8	203	1199	4.71E-03	2.16E-03	1.31E-03	8.33E-04	8.62E-04	4.93E-04	3.39E-04
1120	1.02E-03	4.31E-04	9.24E-05	1.23E-04	3.08E-05	6.16E-05	6.16E-05	8.00E-01	3.08E-05

TRUSTY AND COSDEN

Table A1d — Twenty-Minute Averages of dN/dR ($\text{cm}^{-3} \mu\text{m}^{-1}$) vs Radius (μm)
 AEROSOL DISTRIBUTION TABULATION
 (PROCESSED ON 27-APR-81)

Table A1d (Continued)
(PROCESSED ON 27-APR-81)

PROGRAM A49ELT: AEROSOL DISTRIBUTION TABULATION									
NFL6532: OII FITZROY	RADIUS	-->	5.03	5.97	6.93	7.88	8.83	9.78	10.73
7.3 209	11.40	2.83E-03	1.82E-03	1.05E-03	5.85E-04	3.69E-04	3.69E-04	3.08E-04	1.23E-04
	12.00	4.10E-03	2.06E-03	1.17E-03	1.14E-03	1.17E-03	3.39E-04	2.16E-04	6.16E-05
	12.50	2.96E-03	2.09E-03	1.23E-03	8.37E-04	8.37E-04	6.16E-04	2.46E-04	6.16E-05
	12.50	2.40E-03	1.39E-03	8.62E-04	6.77E-04	6.77E-04	3.39E-04	2.71E-04	9.24E-05
	13.60	1.66E-03	1.66E-03	6.41E-04	5.54E-04	4.00E-04	3.69E-04	1.23E-04	9.24E-05
	13.60	2.06E-03	1.60E-03	8.62E-04	7.08E-04	3.69E-04	3.69E-04	0.00E-01	0.00E-01
	13.71	2.71E-03	2.00E-03	5.85E-04	9.93E-04	4.93E-04	5.85E-04	1.23E-04	6.16E-05
	14.00	2.16E-03	1.82E-03	9.54E-04	7.70E-04	4.39E-04	4.00E-04	1.23E-04	1.54E-04
	14.20	2.14E-03	1.94E-03	1.02E-03	8.62E-04	4.62E-04	4.62E-04	1.81E-04	6.24E-05
	14.40	2.37E-03	1.82E-03	1.02E-03	7.70E-04	3.79E-04	3.79E-04	1.23E-04	6.16E-05
	15.00	2.42E-03	1.66E-03	1.17E-03	8.62E-04	6.16E-04	4.31E-04	1.23E-04	6.16E-05
	15.0	2.26E-03	1.66E-03	1.17E-03	6.16E-04	5.54E-04	5.54E-04	1.23E-04	6.16E-05
	15.40	2.52E-03	1.45E-03	8.01E-04	9.93E-04	4.74E-04	3.69E-04	2.77E-04	1.54E-04
	16.00	2.63E-03	1.97E-03	1.11E-03	8.62E-04	3.69E-04	2.77E-04	1.66E-04	1.23E-04
	16.30	3.76E-03	2.59E-03	1.76E-03	8.01E-04	1.02E-03	5.23E-04	3.69E-04	1.23E-04
7.8 213	8.30	1.75E-02	6.22E-02	2.93E-02	1.54E-02	4.31E-02	7.70E-02	5.54E-02	3.08E-02
	8.50	5.57E-02	3.37E-02	2.65E-02	1.08E-02	1.05E-02	4.00E-02	5.54E-02	2.46E-02
	9.00	5.93E-02	2.56E-02	2.28E-02	9.24E-02	9.30E-02	6.16E-02	3.08E-02	6.16E-02
	9.20	5.34E-02	3.63E-02	3.02E-02	1.26E-02	1.26E-02	1.11E-02	6.16E-02	6.16E-02
	9.40	1.25E-02	4.37E-02	6.40E-02	8.86E-02	3.42E-02	1.94E-02	3.08E-02	3.08E-02
	10.00	5.82E-02	2.31E-02	1.85E-02	8.93E-02	1.70E-02	5.46E-02	1.23E-02	1.23E-02
	10.20	4.12E-02	1.34E-02	1.34E-02	8.62E-02	1.60E-02	4.62E-02	4.31E-02	6.16E-02
	10.40	5.13E-02	2.12E-02	2.28E-02	8.31E-02	8.31E-02	8.93E-02	8.01E-02	8.93E-02
	11.00	5.11E-02	1.48E-02	2.93E-02	6.47E-02	9.83E-02	9.83E-02	2.46E-02	2.46E-02
	11.40	5.22E-02	2.56E-02	1.57E-02	9.85E-02	9.85E-02	3.94E-02	3.94E-02	3.94E-02
	12.00	5.39E-02	1.66E-02	1.91E-02	3.54E-02	1.14E-02	5.65E-02	5.65E-02	5.65E-02
	12.30	4.05E-02	1.54E-02	2.19E-02	8.62E-02	8.00E-02	3.69E-02	3.59E-02	1.82E-02
	12.40	4.68E-02	1.97E-02	2.16E-02	3.54E-02	1.11E-02	4.77E-02	3.08E-02	1.23E-02
	13.00	4.90E-02	1.60E-02	2.40E-02	6.77E-02	6.77E-02	2.77E-02	2.77E-02	6.16E-02
	13.30	4.71E-02	1.79E-02	1.79E-02	7.39E-02	7.39E-02	7.66E-02	7.66E-02	1.54E-02
	13.40	3.35E-02	1.48E-02	1.66E-02	8.01E-02	8.01E-02	7.08E-02	7.08E-02	3.08E-02
	14.00	3.05E-02	1.29E-02	1.66E-02	7.08E-02	6.77E-02	4.62E-02	2.16E-02	6.16E-02
	14.30	2.62E-02	1.08E-02	1.48E-02	4.00E-02	3.59E-02	1.54E-02	1.54E-02	0.00E-01
	14.40	3.61E-02	1.57E-02	1.42E-02	7.08E-02	7.08E-02	4.31E-02	4.31E-02	6.16E-02
	15.00	3.85E-02	1.91E-02	1.79E-02	7.08E-02	9.24E-02	4.00E-02	4.00E-02	1.54E-02
7.8 211	8.40	1.87E-02	3.17E-02	4.80E-02	1.91E-02	2.03E-02	9.54E-02	8.0E-02	2.4E-02
	9.00	5.94E-02	2.52E-02	2.59E-02	3.79E-02	1.02E-02	6.62E-02	6.62E-02	1.54E-02
	9.70	8.71E-02	2.59E-02	3.79E-02	1.02E-02	1.45E-02	5.08E-02	5.08E-02	1.54E-02
	10.00	5.19E-02	2.43E-02	2.28E-02	7.70E-02	6.16E-02	1.05E-02	1.05E-02	6.16E-02
	10.20	6.73E-02	2.25E-02	2.1E-02	7.27E-02	6.72E-02	1.05E-02	1.05E-02	6.16E-02
	10.20	6.73E-02	2.19E-02	2.19E-02	7.27E-02	7.27E-02	1.05E-02	1.05E-02	6.16E-02
	10.40	6.07E-02	2.22E-02	2.22E-02	7.29E-02	7.29E-02	1.14E-02	1.14E-02	6.16E-02
	11.00	4.92E-02	1.94E-02	7.70E-02	2.09E-02	7.39E-02	7.39E-02	1.41E-02	1.41E-02
	12.00	2.31E-02	7.70E-02	1.11E-02	6.16E-02	4.00E-02	1.65E-02	1.65E-02	6.16E-02
	12.70	2.06E-02	1.23E-02	8.01E-02	5.85E-02	1.11E-02	5.85E-02	1.11E-02	6.16E-02
	13.40	1.65E-02	1.11E-02	1.11E-02	5.54E-02	5.54E-02	4.31E-02	4.31E-02	6.16E-02
	13.50	1.63E-02	8.01E-02	8.31E-02	5.31E-02	5.31E-02	4.00E-02	4.00E-02	6.16E-02
	13.40	1.31E-02	1.08E-02	8.62E-02	4.00E-02	4.00E-02	3.41E-02	3.41E-02	6.16E-02
	14.00	1.29E-02	1.08E-02	1.08E-02	5.24E-02	5.24E-02	4.00E-02	4.00E-02	6.16E-02
	14.30	1.63E-02	8.43E-02	6.17E-02	1.87E-02	1.87E-02	5.54E-02	5.54E-02	6.16E-02
	14.40	2.16E-02	7.00E-02	5.85E-02	3.00E-02	3.00E-02	2.16E-02	2.16E-02	6.16E-02

Table A1e — Twenty-Minute Averages of dN/dR ($\text{cm}^{-3} \mu\text{m}^{-1}$) vs Radius (μm)

PENNSYLVANIA		DISTRIBUTION TABULATION		PROCESSED ON 27-WPP-31)									
NFLB532: OH FITZPOY	FHD105: ---	0.12	0.15	0.18	0.22	0.26	0.29	0.33	1.23	2.18	3.12	4.00	
78 211 1500 0.80E-01	7.47E 02	2.05E 02	6.28E 01	2.93E 01	1.55E 01	6.73E 00	5.29E 01	4.42E 02	7.30E-03	2.54E-02			
78 212 300 0.00E-01	1.32E 03	9.05E 02	6.22E 02	4.16E 02	2.80E 02	1.77E 02	1.77E 02	1.70E 02	1.70E 02	1.65E-02	1.65E-02	1.65E-02	
78 212 820 0.00E-01	2.94E 02	7.11E 02	4.07E 02	2.53E 02	1.72E 02	1.00E 02	1.00E 02	1.00E 02	1.00E 02	1.74E-02	1.74E-02	1.74E-02	
78 212 1400 0.00E-01	5.35E 02	1.00E 02	5.35E 02	2.37E 02	2.00E 02	1.54E 02	1.54E 02	1.45E 02	1.45E 02	1.51E-02	1.51E-02	1.51E-02	
78 212 2000 0.00E-01	7.01E 02	4.09E 02	2.37E 02	1.40E 02	8.47E 01	5.57E 01	5.57E 01	1.41E 00	1.41E 00	1.51E-01	1.51E-01	1.51E-01	
78 212 2600 0.00E-01	6.35E 02	3.34E 02	2.21E 02	1.36E 02	7.57E 01	4.44E 01	4.44E 01	1.29E 00	1.29E 00	4.92E-02	1.32E-02	1.32E-02	
78 212 3200 0.00E-01	9.49E 02	7.84E 02	5.12E 02	3.62E 02	2.49E 02	1.54E 02	1.54E 02	1.06E 01	1.06E 01	6.66E-02	6.66E-02	6.66E-02	
78 212 4000 0.00E-01	1.11E 03	1.19E 03	6.13E 02	5.08E 02	3.67E 02	2.35E 02	2.35E 02	1.47E 01	1.47E 01	5.04E-02	5.04E-02	5.04E-02	
78 212 4600 0.00E-01	8.82E 02	6.24E 02	3.48E 02	2.31E 02	1.72E 02	1.12E 02	1.12E 02	8.36E 01	8.36E 01	2.45E 00	2.45E 00	2.45E 00	
78 212 5200 0.00E-01	8.49E 02	5.26E 02	3.67E 02	2.48E 02	1.47E 02	1.47E 02	1.47E 02	7.60E 01	7.60E 01	2.28E 02	2.28E 02	2.28E 02	
78 212 5800 0.00E-01	6.36E 02	5.51E 02	3.35E 02	2.27E 02	1.32E 02	7.83E 01	7.83E 01	1.97E 00	1.97E 00	2.96E-01	2.96E-01	2.96E-01	
78 212 6400 0.00E-01	4.53E 02	5.73E 02	1.71E 02	9.82E 01	5.68E 01	3.54E 01	3.54E 01	2.16E 00	2.16E 00	2.57E 01	2.57E 01	2.57E 01	
78 212 7200 0.00E-01	5.70E 01	5.09E 02	1.88E 02	1.24E 02	6.36E 01	1.37E 02	1.37E 02	7.15E 01	7.15E 01	4.57E 01	4.57E 01	4.57E 01	
78 212 7800 0.00E-01	6.70E 02	1.70E 02	2.36E 02	1.64E 02	9.39E 01	9.95E 01	9.95E 01	7.06E 01	7.06E 01	3.67E 01	3.67E 01	3.67E 01	
78 212 8400 0.00E-01	7.14E 02	2.65E 02	1.64E 02	1.64E 02	9.42E 01	4.07E 01	4.07E 01	1.41E 00	1.41E 00	3.65E 02	3.65E 02	3.65E 02	
78 212 9000 0.00E-01	1.26E 03	8.10E 02	2.19E 02	1.16E 02	5.42E 02	2.99E 02	2.99E 02	1.54E 01	1.54E 01	6.46E-02	6.46E-02	6.46E-02	
78 212 9600 0.00E-01	5.53E 02	4.36E 02	4.57E 02	3.85E 02	3.85E 02	1.62E 02	1.62E 02	1.32E 02	1.32E 02	9.94E 00	9.94E 00	9.94E 00	
78 212 10200 0.00E-01	1.39E 02	6.04E 02	2.61E 02	2.61E 02	2.62E 02	1.12E 02	1.12E 02	2.01E 02	2.01E 02	1.03E 01	1.03E 01	1.03E 01	
78 212 10800 0.00E-01	3.94E 02	3.42E 02	1.72E 02	8.60E 01	3.01E 01	1.81E 01	1.81E 01	8.60E 01	8.60E 01	9.89E-02	9.89E-02	9.89E-02	
78 212 11400 0.00E-01	4.61E 02	5.51E 01	5.51E 01	3.01E 01	3.01E 01	1.66E 01	1.66E 01	9.66E 01	9.66E 01	9.32E-01	9.32E-01	9.32E-01	
78 212 12000 0.00E-01	3.22E 02	1.73E 02	1.73E 02	1.73E 02	1.73E 02	1.53E 01	1.53E 01	2.26E 01	2.26E 01	1.14E 00	1.14E 00	1.14E 00	
78 213 840 0.00E-01	9.62E 02	6.38E 02	4.23E 02	3.74E 02	2.46E 02	1.95E 02	1.95E 02	1.09E 02	1.09E 02	5.05E 00	5.05E 00	5.05E 00	
78 213 900 0.00E-01	8.02E 03	8.02E 02	4.21E 02	4.19E 02	3.09E 02	2.43E 02	2.43E 02	6.75E 00	6.75E 00	1.60E 01	1.60E 01	1.60E 01	
78 213 960 0.00E-01	1.31E 03	8.29E 02	4.95E 02	4.39E 02	3.08E 02	2.30E 02	2.30E 02	1.95E 01	1.95E 01	2.58E 00	2.58E 00	2.58E 00	
78 213 1020 0.00E-01	1.25E 03	9.25E 02	5.34E 02	4.12E 02	2.80E 02	1.86E 02	1.86E 02	3.98E 00	3.98E 00	6.62E 01	6.62E 01	6.62E 01	
78 213 1080 0.00E-01	1.32E 03	9.38E 02	6.17E 02	4.34E 02	2.94E 02	2.14E 02	2.14E 02	3.62E 00	3.62E 00	1.85E 01	1.85E 01	1.85E 01	
78 213 1140 0.00E-01	1.32E 03	9.36E 02	6.70E 02	4.78E 02	3.09E 02	2.09E 02	2.09E 02	1.61E 00	1.61E 00	5.5E-02	5.5E-02	5.5E-02	
78 213 1200 0.00E-01	1.61E 03	1.01E 03	7.04E 02	5.25E 02	3.71E 02	2.74E 02	2.74E 02	6.17E 00	6.17E 00	1.63E 01	1.63E 01	1.63E 01	
78 213 1260 0.00E-01	2.61E 03	8.41E 02	8.24E 02	6.46E 02	4.69E 02	3.41E 02	3.41E 02	1.63E 01	1.63E 01	2.73E 01	2.73E 01	2.73E 01	
78 213 1320 0.00E-01	1.1200 0.00E-01	3.98E 02	1.85E 02	1.06E 02	8.52E 01	5.95E 02	4.10E 02	4.10E 02	4.10E 02	1.14E 01	1.14E 01	1.14E 01	
78 213 1380 0.00E-01	4.32E 02	2.11E 03	1.22E 03	9.84E 02	6.18E 02	4.21E 02	4.21E 02	3.17E 01					
78 213 1440 0.00E-01	4.57E 02	1.99E 03	1.31E 03	1.02E 03	7.21E 02	4.95E 02	4.95E 02	2.35E 01	2.35E 01	2.65E 01	2.65E 01	2.65E 01	
78 213 1500 0.00E-01	1.2200 0.00E-01	4.35E 02	1.08E 03	1.29E 03	1.01E 03	6.45E 02	6.45E 02	4.95E 02	4.95E 02	1.24E 01	1.24E 01	1.24E 01	
78 213 1560 0.00E-01	1.2400 0.00E-01	4.37E 02	2.25E 03	1.37E 03	9.42E 02	6.56E 02	4.85E 02	4.85E 02	1.93E 01	1.93E 01	1.08E 01	1.08E 01	
78 213 1620 0.00E-01	5.13E 01	5.13E 01	5.13E 01	5.13E 01	5.13E 01	1.18E 03	1.18E 03	8.3E 02	8.3E 02	2.46E 01	2.46E 01	2.46E 01	
78 213 1680 0.00E-01	5.13E 01	5.13E 01	5.13E 01	5.13E 01	5.13E 01	1.18E 03	1.18E 03	8.3E 02	8.3E 02	1.92E 01	1.92E 01	1.92E 01	
78 214 840 0.00E-01	1.00E 02	1.87E 01	6.02E 00	2.58E 00	8.50E 00	2.26E 00	2.26E 00	2.21E 01	2.21E 01	5.39E-02	5.39E-02	5.39E-02	
78 214 900 0.00E-01	8.91E 01	1.94E 01	5.16E 00	6.02E 00	2.58E 00	7.53E 01	7.53E 01	4.62E 01	4.62E 01	1.60E 02	1.60E 02	1.60E 02	
78 214 960 0.00E-01	1.39E 02	5.42E 01	6.02E 00	5.16E 00	6.02E 00	4.52E 00	4.52E 00	3.84E 01	3.84E 01	1.15E 02	1.15E 02	1.15E 02	
78 214 1020 0.00E-01	1.36E 02	5.36E 01	1.29E 01	1.03E 01	6.02E 00	6.02E 00	6.02E 00	4.63E 01	4.63E 01	1.15E 02	1.15E 02	1.15E 02	
78 214 1080 0.00E-01	1.0600 0.00E-01	2.25E 02	7.22E 01	2.32E 01	1.72E 01	6.88E 00	3.44E 00	3.76E 00	3.76E 00	1.15E 02	1.15E 02	1.15E 02	
78 214 1140 0.00E-01	1.0700 0.00E-01	1.95E 02	5.22E 01	1.63E 01	9.46E 00	3.44E 00	4.52E 00	3.90E 00	3.90E 00	1.15E 02	1.15E 02	1.15E 02	
78 214 1200 0.00E-01	1.1100 0.00E-01	2.46E 02	9.23E 01	2.32E 01	1.49E 01	1.03E 01	8.60E 00	6.78E 00	6.78E 00	1.15E 02	1.15E 02	1.15E 02	
78 214 1260 0.00E-01	1.1200 0.00E-01	2.49E 02	7.16E 01	9.46E 00	1.38E 01	5.16E 00	6.78E 00	3.76E 01	3.76E 01	1.15E 02	1.15E 02	1.15E 02	
78 214 1320 0.00E-01	1.1400 0.00E-01	2.48E 02	7.13E 01	1.99E 01	1.20E 01	8.40E 00	7.14E 00	8.28E 00	8.28E 00	1.15E 02	1.15E 02	1.15E 02	
78 214 1380 0.00E-01	1.2000 0.00E-01	2.32E 02	9.34E 01	2.08E 01	1.46E 01	6.89E 00	8.60E 00	9.79E 00	9.79E 00	1.07E 02	1.07E 02	1.07E 02	
78 214 1440 0.00E-01	1.2400 0.00E-01	2.36E 02	9.39E 02	1.33E 02	5.51E 01	1.03E 01	1.51E 01	5.02E 01	5.02E 01	7.05E-02	7.05E-02	7.05E-02	

PROGRAM H40GLT: AEROSOL DISTRIBUTION TABULATION
(PROCESSED ON 27-AFR-81)

NPLF532: ON FITZROY		AEROSOL DISTRIBUTION TABULATION											
RADIUS	---->	5.03	5.97	6.93	7.88	8.83	9.78	10.73	11.68	12.63	13.58	14.57	
78	211	15.00	1.54E-03	5.23E-04	5.85E-04	2.77E-04	2.46E-04	1.23E-04	6.16E-05	0.00E-01	3.08E-05	0.00E-01	
78	212	8.09	6.71E-03	5.48E-03	2.46E-03	3.14E-03	1.08E-03	1.54E-03	1.39E-03	7.08E-04	9.24E-04	4.31E-04	
78	220	5.67E-03	4.50E-03	2.22E-03	2.83E-03	1.35E-03	1.02E-03	1.26E-03	1.02E-03	6.93E-04	6.16E-04	3.69E-04	
78	227	6.47E-03	4.71E-03	2.77E-03	2.05E-03	1.11E-03	1.57E-03	1.26E-03	4.08E-04	6.16E-04	2.08E-04	2.08E-04	
900	5.27E-03	4.13E-03	2.05E-03	2.52E-03	8.62E-03	1.62E-03	4.52E-03	4.52E-03	4.85E-04	4.32E-04	1.85E-04	1.85E-04	
920	7.11E-03	4.63E-03	2.68E-03	2.89E-03	7.10E-03	1.11E-03	6.16E-04	1.11E-03	6.16E-04	5.54E-04	5.54E-04	3.39E-04	
940	6.82E-03	6.13E-03	2.96E-03	3.62E-03	1.11E-03	1.11E-03	1.91E-03	1.91E-03	1.05E-03	5.45E-04	5.45E-04	4.00E-04	
1000	1.32E-02	8.44E-03	5.36E-03	5.67E-03	1.08E-03	1.11E-03	3.20E-03	3.20E-03	1.05E-03	9.14E-04	9.14E-04	3.08E-04	
1020	9.08E-03	5.14E-02	3.62E-03	3.91E-03	1.05E-03	1.05E-03	1.83E-03	1.83E-03	1.42E-03	7.70E-04	7.70E-04	4.01E-04	
1040	1.08E-02	4.62E-03	4.34E-03	4.40E-03	2.03E-03	2.03E-03	1.40E-03	1.40E-03	1.23E-03	8.93E-04	8.93E-04	3.54E-04	
1080	1.47E-02	8.19E-03	6.59E-03	5.72E-03	2.56E-03	2.56E-03	9.54E-03	9.54E-03	6.66E-03	6.66E-03	6.66E-03	6.16E-04	
1140	1.09E-02	4.99E-02	3.55E-03	3.66E-03	1.02E-03	1.02E-03	2.09E-03	2.09E-03	9.85E-04	4.62E-04	4.62E-04	3.69E-04	
1220	7.48E-03	3.51E-03	2.83E-03	2.83E-03	4.90E-03	2.77E-03	2.83E-03	2.83E-03	1.79E-03	1.08E-03	1.08E-03	1.08E-03	
1240	7.08E-03	2.74E-03	2.49E-03	1.45E-03	1.11E-03	6.62E-04	5.23E-04	5.23E-04	4.93E-04	4.93E-04	2.77E-04	2.77E-05	
1300	6.89E-03	3.20E-03	2.77E-03	1.35E-03	1.35E-03	9.85E-04	1.20E-03	1.20E-03	4.93E-04	4.93E-04	1.23E-04	1.23E-04	
1320	1.13E-02	1.13E-02	1.16E-02	5.97E-03	9.02E-03	5.76E-03	5.63E-02	5.63E-02	6.68E-03	6.68E-03	6.68E-03	6.68E-03	
1340	1.24E-01	1.78E-01	1.21E-01	1.38E-01	1.37E-01	1.57E-01	1.55E-01	1.55E-01	1.34E-01	1.26E-01	1.26E-01	1.26E-01	
1400	2.06E-02	2.35E-02	1.63E-02	2.61E-02	1.75E-02	2.03E-02	2.29E-02	2.29E-02	1.60E-02	1.80E-02	1.80E-02	1.80E-02	
1420	5.05E-03	6.65E-03	7.40E-03	7.39E-03	1.41E-03	5.54E-04	4.93E-04	4.93E-04	3.11E-04	2.46E-04	2.46E-04	2.46E-04	
1440	6.13E-03	1.79E-03	2.55E-03	1.05E-03	9.24E-04	7.70E-04	5.49E-04	5.49E-04	1.85E-04	2.77E-04	2.77E-04	2.77E-05	
1500	6.77E-03	2.31E-03	2.65E-03	8.93E-04	1.26E-03	8.31E-04	4.531E-04	3.39E-04	9.24E-05	2.46E-04	1.35E-04	1.35E-04	
78	213	8.49	1.23E-02	1.31E-02	8.71E-03	1.24E-02	7.61E-03	8.47E-02	2.85E-02	3.03E-02	8.44E-03	8.44E-03	
78	909	2.61E-02	3.09E-02	2.07E-02	1.11E-02	3.48E-02	2.07E-02	2.07E-02	2.07E-02	2.07E-02	2.07E-02	2.07E-02	
78	929	2.19E-02	2.01E-02	1.75E-02	1.67E-02	1.78E-02	9.37E-03	8.16E-03	8.16E-03	2.31E-02	3.34E-02	3.34E-02	
78	940	1.83E-02	1.26E-02	1.13E-02	5.23E-03	8.15E-03	4.13E-03	5.27E-03	4.13E-03	6.40E-03	4.10E-03	4.10E-03	
78	1000	1.26E-02	1.13E-02	3.51E-03	5.54E-03	5.54E-03	1.89E-02	1.28E-02	1.36E-02	4.19E-03	4.19E-03	4.19E-03	
78	1020	8.47E-03	8.90E-03	1.03E-02	1.03E-02	1.03E-02	1.03E-02	1.03E-02	1.03E-02	3.23E-03	3.23E-03	4.03E-03	
78	1140	1.65E-02	1.83E-02	1.03E-02	1.80E-02	1.80E-02	1.28E-02	1.28E-02	1.28E-02	1.85E-03	1.85E-03	1.85E-03	
78	1160	4.36E-02	6.00E-02	4.23E-02	6.35E-02	5.03E-02	5.93E-02	5.93E-02	7.06E-02	6.12E-02	6.89E-02	6.89E-02	
78	1180	6.30E-02	9.00E-02	6.41E-02	9.31E-02	9.31E-02	9.31E-02	9.31E-02	9.31E-02	9.11E-01	9.67E-02	9.42E-02	
78	1190	5.95E-02	8.31E-02	6.35E-02	9.57E-02	7.77E-02	7.77E-02	7.77E-02	7.77E-02	9.15E-02	1.07E-01	1.10E-01	
78	1200	4.58E-02	6.48E-02	4.62E-02	6.54E-02	5.49E-02	6.65E-02	6.65E-02	6.88E-02	5.69E-02	5.65E-02	5.65E-02	
78	1240	3.25E-02	6.34E-02	4.24E-02	6.34E-02	6.81E-02	5.56E-02	5.56E-02	5.95E-02	4.46E-02	3.66E-02	3.66E-02	
78	1300	3.73E-02	4.94E-02	3.17E-02	4.76E-02	4.26E-02	3.68E-02	4.68E-02	5.40E-02	4.61E-02	4.34E-02	4.34E-02	
78	215	8.49	8.31E-04	6.77E-04	2.46E-04	4.00E-04	1.23E-04	1.54E-04	1.85E-04	0.00E-01	0.00E-01	3.08E-05	
78	909	8.62E-04	8.01E-04	1.54E-04	4.00E-04	1.54E-04	1.54E-04	1.54E-04	1.54E-04	6.16E-05	6.16E-05	3.08E-05	
78	929	1.97E-03	1.02E-03	7.08E-03	1.11E-03	5.23E-04	5.23E-04	5.23E-04	5.23E-04	9.24E-05	9.24E-05	3.08E-05	
78	940	2.59E-03	1.63E-03	8.31E-04	4.31E-04	5.13E-04	4.31E-04	5.13E-04	4.31E-04	1.54E-04	1.54E-04	1.54E-04	
78	1010	2.71E-03	1.16E-03	7.08E-03	7.08E-03	4.00E-04	4.00E-04	4.00E-04	4.00E-04	6.16E-05	6.16E-05	6.16E-05	
78	1020	2.37E-03	1.00E-03	9.83E-04	6.77E-04	3.31E-04	3.31E-04	3.31E-04	3.31E-04	1.23E-05	1.23E-05	1.23E-05	
78	1040	2.00E-03	9.83E-04	7.39E-04	2.17E-04	2.17E-04	2.17E-04	2.17E-04	2.17E-04	1.54E-04	1.54E-04	1.54E-04	
78	1100	1.63E-03	1.03E-03	7.39E-04	2.17E-04	2.17E-04	2.17E-04	2.17E-04	2.17E-04	1.54E-04	1.54E-04	1.54E-04	
78	1120	1.09E-03	3.65E-04	1.54E-04	4.00E-04	4.00E-04	4.00E-04	4.00E-04	4.00E-04	9.24E-05	9.24E-05	9.24E-05	
78	1140	1.72E-03	1.05E-03	4.00E-04	4.31E-04	2.77E-04	2.77E-04	2.77E-04	2.77E-04	3.08E-05	3.08E-05	3.08E-05	
78	1160	2.12E-03	1.08E-03	6.47E-04	4.00E-04	4.00E-04	4.00E-04	4.00E-04	4.00E-04	9.00E-05	9.00E-05	9.00E-05	
78	1170	2.05E-03	9.85E-04	7.39E-04	4.00E-04	4.00E-04	4.00E-04	4.00E-04	4.00E-04	9.00E-05	9.00E-05	9.00E-05	
78	1210	3.82E-03	1.39E-03	5.23E-04	7.08E-04	7.08E-04	7.08E-04	7.08E-04	7.08E-04	2.77E-04	2.77E-04	2.77E-04	

TRUSTY AND COSDEN

Table A2a — Twenty-Minute Averages of Measured and Calculated Parameters
(PROCESSED ON 28-APR-81)

PROGRAM A43GLT: AEROSOL DATA TABULATION						NUM	AREA	VOL	0.55	1.05	3.80	10.0	
NPL6532: ON FITZROY	YEAR DAY	TIME AT	RH	US	WD								
78 196	1320	11.3	80.8	1.1	278	8.1	173.	35.9	23.0	0.076	0.046	0.0067	
1340	3.4	76.2	2.0	303	4.5	203.	39.7	24.3	0.082	0.048	0.0068	0.0016	
1400	11.3	80.3	1.6	303	8.0	177.	34.5	21.7	0.070	0.043	0.0063	0.0015	
1420	12.0	80.8	1.7	313	8.5	180.	34.0	21.2	0.069	0.041	0.0062	0.0014	
1440	12.1	80.3	2.0	310	8.5	172.	35.1	22.4	0.072	0.043	0.0064	0.0016	
1500	12.2	80.3	2.1	312	8.0	188.	33.5	21.1	0.068	0.041	0.0061	0.0015	
1520	11.8	77.8	2.5	303	8.0	188.	37.4	23.4	0.077	0.046	0.0067	0.0016	
1540	12.6	78.5	3.0	308	8.6	187.	37.2	23.1	0.076	0.045	0.0066	0.0015	
1600	12.1	77.6	3.3	299	8.2	190.	38.0	23.8	0.078	0.047	0.0069	0.0016	
1620	12.7	79.4	3.3	299	8.7	195.	42.2	27.5	0.091	0.056	0.0080	0.0018	
1640	12.7	81.0	3.2	305	8.9	197.	43.8	29.3	0.095	0.060	0.0088	0.0020	
1700	12.3	81.9	3.1	305	8.8	207.	43.8	28.3	0.094	0.057	0.0082	0.0019	
1720	12.7	79.8	2.9	303	8.8	193.	38.0	23.3	0.079	0.046	0.0065	0.0016	
1740	12.7	79.9	2.6	308	8.8	184.	35.4	21.8	0.072	0.042	0.0061	0.0015	
1800	12.3	80.4	2.7	306	8.6	192.	37.2	23.1	0.076	0.045	0.0065	0.0016	
78 197	820	11.9	94.7	4.9	279	9.9	358.	118.8	120.1	0.286	0.232	0.0469	0.0100
840	12.2	95.6	4.2	275	10.2	346.	123.7	141.1	0.299	0.253	0.0557	0.0128	
900	9.6	118.0	5.1	285	10.5	552.	219.3	307.6	0.539	0.479	0.1176	0.323	
920	12.0	99.3	4.8	285	10.4	923.	464.4	1130.7	1.133	1.100	0.3758	0.1500	
940	12.0	100.0	4.7	287	10.5	735.	391.7	862.3	0.969	0.934	0.3314	0.1097	
1000	8.7	128.0	4.7	281	10.8	631.	1400.0	397.3	1400.0	0.925	0.4733	0.2082	0.0891
1020	12.0	99.8	4.7	280	10.5	445.	236.7	642.5	0.588	0.530	0.2307	0.1120	
1040	12.0	99.4	4.6	281	10.4	342.	147.6	278.3	0.364	0.295	0.0353	0.0353	
1100	12.1	98.9	4.5	282	10.5	293.	120.7	231.7	0.295	0.231	0.0933	0.0391	
1120	12.1	98.7	4.6	282	10.4	201.	72.3	128.9	0.172	0.131	0.0503	0.0166	
1140	12.1	98.1	4.3	283	10.4	177.	57.5	95.5	0.134	0.098	0.0375	0.0122	
1200	11.7	101.0	4.7	289	10.4	195.	58.2	99.8	0.132	0.093	0.0383	0.0131	
1220	12.1	98.0	4.7	275	10.3	220.	74.0	146.3	0.125	0.0530	0.0200	0.0200	
1240	12.0	98.6	4.5	275	10.4	260.	99.5	227.1	0.238	0.182	0.0765	0.0318	
1300	11.7	101.0	4.9	284	10.4	248.	81.4	152.5	0.190	0.136	0.0548	0.0208	
1400	11.9	101.0	4.9	279	10.6	369.	180.9	339.7	0.451	0.403	0.1295	0.0421	
1420	12.2	99.0	4.9	281	10.5	466.	181.2	308.4	0.448	0.346	0.1035	0.0390	
1440	12.2	98.8	5.2	284	10.4	411.	130.2	161.2	0.314	0.214	0.0521	0.0182	
1500	12.2	98.5	5.2	282	10.5	437.	151.5	199.3	0.375	0.268	0.0645	0.0227	
1520	12.0	100.0	5.0	284	10.5	399.	142.8	187.9	0.351	0.269	0.0633	0.0207	
1540	12.2	98.5	5.1	282	10.5	363.	136.6	188.2	0.338	0.267	0.0641	0.0209	
79 120	1.40	7.3	135.0	6.9	292	10.4	162.	63.5	200.4	0.142	0.114	0.0740	0.0316
1.400	10.7	107.0	6.5	284	10.3	144.	52.1	141.4	0.115	0.092	0.0534	0.0207	
1.420	11.3	97.7	6.1	284	10.2	104.	36.3	98.0	0.080	0.059	0.0365	0.0142	
1.440	11.9	97.0	6.5	286	10.1	160.	52.8	116.9	0.118	0.093	0.0463	0.0165	
1.500	11.6	97.9	6.5	286	10.0	153.	49.7	113.9	0.110	0.090	0.0481	0.0159	
1.540	11.1	99.7	7.4	284	9.8	185.	66.6	191.1	0.143	0.123	0.0659	0.0234	
11.8	94.7	7.1	11.6	104.	10.3	283	136.5	178.6	0.119	0.119	0.0668	0.0265	

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Table A2b—Twenty-Minute Averages of Measured and Calculated Parameters
 (PROCESSED ON 28-APP-81)

PPUJSPH1 H-45GLT: REPOSOL DATA TABULATION										PPUJSPH1 H-45GLT: REPOSOL DATA TABULATION											
NFL6532: OH FITZROY		YEAR DAY TIME		RH		WD		WVP		NUM		AREA		VOL		0.55		1.05		3.80	
72	128	1500	10.9	98.4	8.1	286	9.6	85.	48.8	160.4	0.116	0.103	0.0597	0.0239	0.0004	0.0002	0.0002	0.0002	0.0002	0.0002	
	1520	11.8	90.8	7.4	285	9.4	62.	28.2	83.6	0.065	0.060	0.0307	0.0123	0.016	0.0016	0.0003	0.0003	0.0003	0.0003	0.0003	
	1640	11.6	92.0	7.8	286	9.4	62.	26.1	77.7	0.059	0.053	0.0288	0.0114	0.019	0.0019	0.0004	0.0004	0.0004	0.0004	0.0004	
	1700	10.5	98.7	7.0	280	9.4	64.	29.0	92.0	0.066	0.061	0.0343	0.0136	0.022	0.0022	0.0005	0.0005	0.0005	0.0005	0.0005	
73	201	800	9.7	92.3	2.3	189	8.4	21.	3.8	4.0	0.007	0.005	0.0013	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	
	820	9.3	92.4	2.0	229	8.4	12.	2.8	2.4	0.006	0.004	0.0010	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	
	840	9.9	92.3	1.5	236	8.4	15.	3.7	3.5	0.008	0.006	0.0016	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	
	900	9.7	92.4	1.1	165	8.3	20.	4.4	4.4	0.009	0.007	0.0019	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	0.0004	
	920	10.5	87.9	0.9	132	8.3	24.	4.5	4.9	0.008	0.007	0.0022	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	0.0005	
	940	10.5	87.7	1.4	129	8.4	23.	5.3	6.7	0.011	0.008	0.0027	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	
	1000	10.6	87.5	1.6	127	8.4	25.	5.2	7.2	0.010	0.008	0.0029	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	
	1020	10.9	85.4	2.0	124	8.3	27.	6.0	10.2	0.012	0.010	0.0037	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	0.0013	
	1040	10.9	81.8	2.7	125	8.0	31.	7.1	9.0	0.015	0.013	0.0040	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	0.0009	
	1100	11.1	78.5	3.0	124	7.8	32.	7.8	9.2	0.016	0.015	0.0046	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	0.0008	
	1300	10.7	91.3	4.8	262	8.8	77.	19.7	35.6	0.041	0.033	0.0136	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	0.0047	
	1320	9.0	101.0	5.3	266	8.7	103.	31.	73.4	0.070	0.052	0.0239	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	0.0106	
	1340	8.9	103.0	5.4	268	8.8	117.	36.8	85.3	0.084	0.061	0.0275	0.0122	0.0122	0.0122	0.0122	0.0122	0.0122	0.0122	0.0122	
	1400	10.5	97.3	5.4	273	9.3	121.	44.4	113.7	0.103	0.080	0.0368	0.0165	0.0165	0.0165	0.0165	0.0165	0.0165	0.0165	0.0165	
	1420	10.7	97.1	5.2	272	9.4	116.	37.2	81.8	0.083	0.063	0.0310	0.0113	0.0113	0.0113	0.0113	0.0113	0.0113	0.0113	0.0113	
	1440	11.2	95.4	5.3	269	9.5	128.	45.5	134.6	0.101	0.079	0.0493	0.0202	0.0202	0.0202	0.0202	0.0202	0.0202	0.0202	0.0202	
78	203	1200	10.6	103.0	2.9	265	9.8	11.	12.2	71.7	0.028	0.026	0.0243	0.0120	0.0120	0.0120	0.0120	0.0120	0.0120	0.0120	
	1220	11.3	98.8	2.4	260	9.9	13.	11.4	55.4	0.027	0.024	0.0202	0.0089	0.0089	0.0089	0.0089	0.0089	0.0089	0.0089	0.0089	
	1240	11.3	100.0	2.3	263	10.0	20.	16.0	123.4	0.037	0.034	0.0234	0.0206	0.0206	0.0206	0.0206	0.0206	0.0206	0.0206	0.0206	
	1300	11.4	99.8	3.5	285	10.1	14.	9.0	48.9	0.021	0.019	0.0121	0.0102	0.0102	0.0102	0.0102	0.0102	0.0102	0.0102	0.0102	
	1320	7.7	111.0	7.0	268	8.7	53.	25.6	103.7	0.060	0.050	0.0332	0.0164	0.0164	0.0164	0.0164	0.0164	0.0164	0.0164	0.0164	
78	205	1840	9.9	85.4	5.7	273	7.8	23.	15.3	55.2	0.036	0.036	0.0216	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	0.0083	
	1900	10.1	85.0	5.3	268	7.9	20.	14.6	57.9	0.034	0.035	0.023	0.0088	0.0088	0.0088	0.0088	0.0088	0.0088	0.0088		
	1920	10.0	81.3	4.9	271	7.5	18.	11.3	39.4	0.026	0.027	0.0151	0.0059	0.0059	0.0059	0.0059	0.0059	0.0059	0.0059		
	1940	10.2	82.0	4.7	263	7.7	15.	10.7	38.3	0.025	0.025	0.0158	0.0056	0.0056	0.0056	0.0056	0.0056	0.0056	0.0056		
	2000	10.1	80.3	4.7	275	7.4	17.	9.6	27.2	0.023	0.023	0.0128	0.0038	0.0038	0.0038	0.0038	0.0038	0.0038	0.0038		
	2020	10.4	78.0	4.0	271	7.4	14.	8.1	24.0	0.019	0.019	0.0117	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033	0.0033		
	2040	10.6	77.4	4.2	261	7.4	13.	6.7	18.5	0.016	0.016	0.0086	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025	0.0025		
	2100	10.0	78.7	4.0	264	7.3	12.	7.0	21.0	0.017	0.017	0.0093	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030	0.0030		
	2120	10.2	81.0	3.6	277	7.6	14.	9.0	35.7	0.021	0.021	0.0132	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054	0.0054		
	2140	10.0	81.4	2.9	288	7.5	14.	8.7	34.6	0.020	0.020	0.0129	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053	0.0053		
78	206	1140	10.6	95.3	7.2	283	8.2	52.	24.2	71.8	0.054	0.055	0.0294	0.0102	0.0102	0.0102	0.0102	0.0102	0.0102		
	1500	10.6	86.1	6.3	274	8.3	56.	27.5	86.7	0.062	0.063	0.0347	0.0126	0.0126	0.0126	0.0126	0.0126	0.0126	0.0126		
	1220	10.3	87.4	7.2	274	8.2	57.	29.1	91.7	0.067	0.066	0.0365	0.0133	0.0133	0.0133	0.0133	0.0133	0.0133	0.0133		
	1240	10.6	86.7	7.1	275	8.3	56.	29.1	95.2	0.066	0.067	0.0381	0.0141	0.0141	0.0141	0.0141	0.0141	0.0141	0.0141		
	1500	11.5	86.3	7.0	273	8.8	55.	31.2	102.0	0.072	0.072	0.0402	0.0149	0.0149	0.0149	0.0149	0.0149	0.0149	0.0149		
	1720	11.1	88.3	7.1	277	8.7	55.	32.6	115.0	0.075	0.076	0.0444	0.0171	0.0171	0.0171	0.0171	0.0171	0.0171	0.0171		

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Table A2c - Twenty-Minute Averages of Measured and Calculated Parameters
 (PROCESSED ON 28-HFR-81)

PROGRAM A43GLT: HERSOOL DATA TRAVERSATION		YEAR	DAY	TIME	AT	RH	WS	WD	UVF	NUM	AREA	VOL	0.55	1.05	3.80	10.0
78	206	1340	8.6	92.6	7.7	284	7.8	78.	38.0	131.3	0.087	0.083	0.0481	0.0196		
		1400	11.1	88.2	7.2	277	8.7	64.	42.6	150.9	0.097	0.097	0.0656	0.0299		
		1420	11.4	88.2	7.1	274	8.9	60.	42.2	184.7	0.098	0.098	0.0652	0.0288		
		1440	11.4	88.4	7.2	272	8.9	57.	24.0	80.3	0.054	0.056	0.0293	0.0119		
		1500	11.4	88.2	7.4	275	8.9	56.	21.4	67.8	0.048	0.042	0.0236	0.0100		
		1520	11.2	89.0	7.6	275	8.9	54.	22.0	89.0	0.048	0.043	0.0277	0.0158		
		1540	11.3	88.4	7.4	273	8.9	52.	23.5	117.5	0.058	0.046	0.0341	0.0188		
79	207	840	10.7	79.8	3.1	244	7.7	11.	2.6	4.3	0.005	0.004	0.0019	0.0005		
		900	10.4	81.4	2.9	219	7.7	13.	2.6	4.2	0.005	0.004	0.0019	0.0005		
		920	10.7	81.1	3.0	208	7.8	13.	2.5	4.5	0.005	0.004	0.0017	0.0004		
		940	10.6	83.9	3.8	207	8.0	14.	2.8	4.6	0.005	0.005	0.0022	0.0009		
		1000	10.3	86.5	4.2	258	8.1	19.	4.6	9.5	0.009	0.008	0.0041	0.0013		
		1020	10.5	86.2	3.8	256	8.2	18.	4.6	11.6	0.009	0.008	0.0048	0.0017		
		1040	10.6	84.9	3.4	254	8.1	15.	3.4	7.1	0.007	0.006	0.0028	0.0010		
		1100	10.4	85.2	3.0	243	8.0	13.	2.7	4.2	0.005	0.004	0.0019	0.0005		
		1120	10.7	85.1	3.0	248	8.2	12.	2.6	4.3	0.005	0.004	0.0019	0.0005		
		1140	11.2	81.9	2.8	162	8.2	17.	2.4	24.4	0.003	0.003	0.0011	0.0003		
		1200	11.2	82.1	3.5	133	8.2	11.	2.3	5.2	0.004	0.004	0.0018	0.0007		
		1220	11.2	86.4	3.2	137	8.6	17.	4.1	12.9	0.006	0.007	0.0047	0.0020		
		1240	10.6	90.0	4.5	307	8.6	11.	3.8	8.9	0.009	0.008	0.0038	0.0012		
		1340	10.2	92.1	3.9	270	8.6	8.	3.9	12.9	0.009	0.009	0.0047	0.0019		
		1400	10.4	91.7	3.8	264	8.7	9.	4.1	11.9	0.010	0.009	0.0046	0.0017		
		1420	10.3	93.2	4.7	277	8.8	25.	7.8	18.7	0.017	0.014	0.0065	0.0027		
		1440	10.2	93.8	3.9	272	8.7	36.	9.7	18.4	0.019	0.016	0.0069	0.0025		
		1500	10.1	93.5	4.0	266	8.6	38.	10.4	17.4	0.023	0.018	0.0068	0.0022		
		1520	9.7	94.0	3.4	254	8.5	60.	14.2	19.5	0.029	0.023	0.0084	0.0023		
		1540	9.9	93.2	2.7	256	8.5	47.	10.9	13.2	0.022	0.017	0.0054	0.0014		
		1600	9.9	93.7	1.8	249	8.6	34.	8.1	9.7	0.017	0.013	0.0044	0.0010		
		1620	10.1	94.4	1.1	186	8.7	24.	6.1	8.6	0.013	0.010	0.0037	0.0010		
		1640	10.2	94.1	0.6	193	8.8	18.	5.1	7.2	0.011	0.009	0.0032	0.0008		
79	208	820	10.0	95.0	2.3	285	8.8	6.	1.9	2.3	0.002	0.002	0.0006	0.0002		
		840	10.2	94.3	2.4	278	8.5	14.	2.8	3.6	0.004	0.003	0.0009	0.0003		
		900	9.9	93.0	2.1	215	8.7	15.	2.1	3.5	0.005	0.004	0.0015	0.0004		
		10.0	10.5	91.5	1.5	213	8.5	15.	2.5	4.9	0.007	0.006	0.0020	0.0005		
		1000	10.1	90.1	1.3	212	8.3	12.	2.3	3.8	0.014	0.014	0.0031	0.0005		
		1010	10.5	91.5	1.1	214	8.7	10.	2.9	11.4	0.015	0.015	0.0031	0.0008		
		1010	10.5	91.8	1.4	204	8.7	13.	2.6	4.3	0.015	0.014	0.0031	0.0006		
		1100	9.9	93.8	2.7	212	8.5	19.	3.4	4.2	0.016	0.016	0.0035	0.0005		
		1120	10.4	91.6	2.4	264	8.6	40.	7.1	5.3	0.013	0.013	0.0022	0.0004		
		1120	10.8	90.5	1.4	278	8.8	56.	12.0	15.6	0.024	0.019	0.0066	0.0017		
		1240	10.7	90.6	1.5	215	8.7	70.	13.1	14.8	0.018	0.018	0.0061	0.0016		
		1300	10.7	91.2	1.2	215	8.8	77.	14.1	16.5	0.025	0.019	0.0068	0.0013		

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Table A2d – Twenty-Minute Averages of Measured and Calculated Parameters
AEROSOL DATA TABULATION
(PROCESSED ON 28-APR-81)

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Table A2e — Twenty-Minute Averages of Measured and Calculated Parameters

PROGRAM A40GLT: **Table A2f** – Twenty-Minute Averages of Measured and Calculated Parameters
AEROSOL DATA TABULATION (PROCESSED ON 28-APR-81)

Table A3 — Bin-Edge Locations
for Probes in Table A1

Particle Radius (μm)	
ASASP Probe 1	CSASP Probe 2
0.1	0.75
0.135	1.7
0.17	2.65
0.205	3.6
0.24	4.55
0.275	5.5
0.31	6.45
0.35	7.4
0.4	8.35
0.45	9.3
0.5	10.25
0.55	11.2
0.6	12.15
0.65	13.1
0.7	14.05
0.75	15.0

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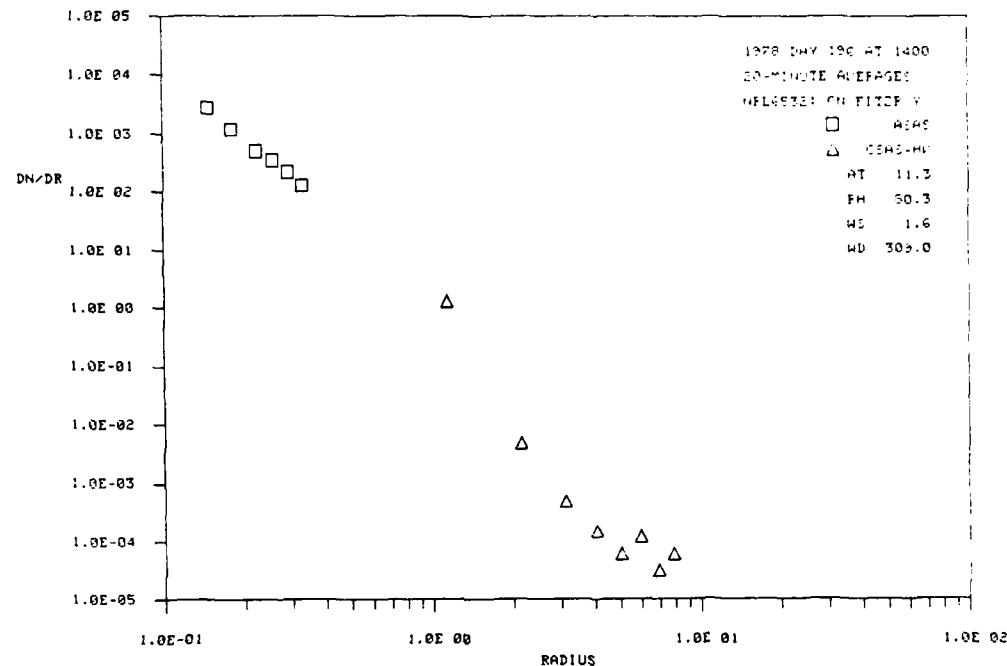


Fig. Ala

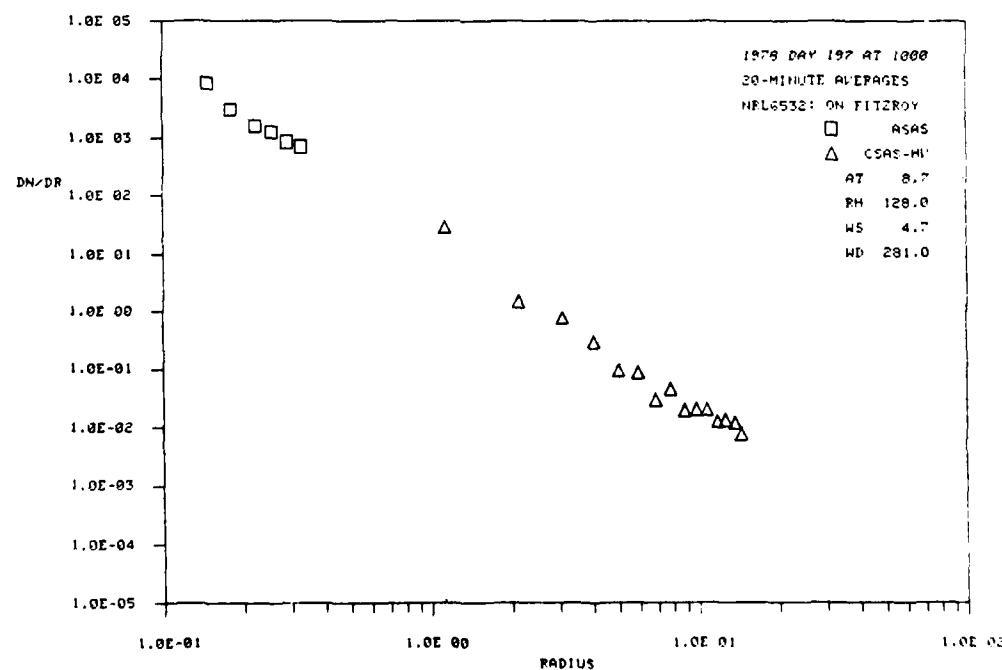


Fig. Alb

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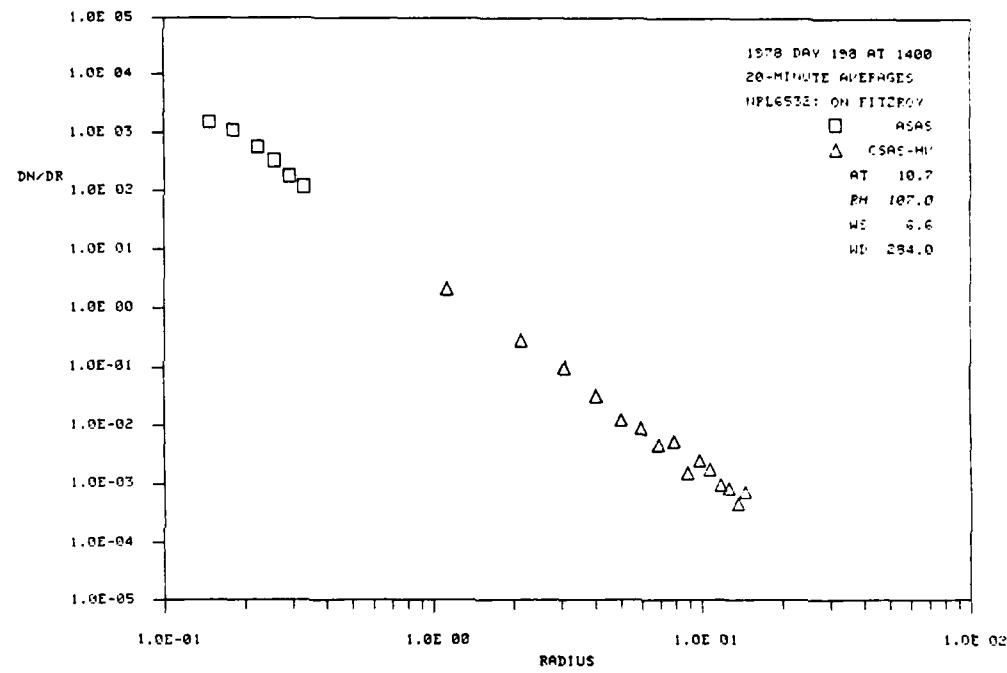


Fig. A1c

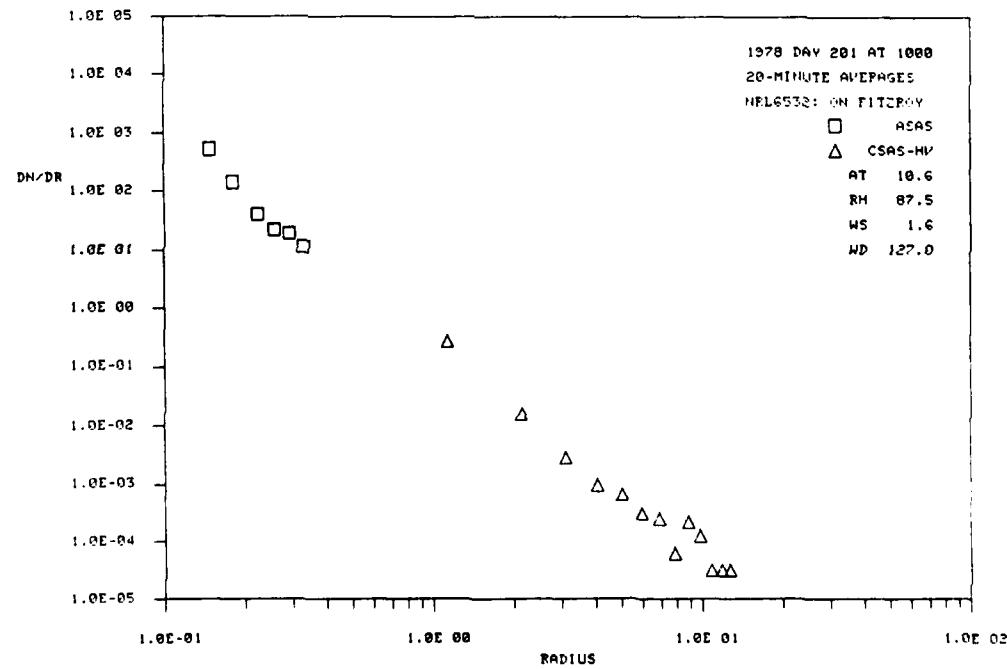


Fig. A1d

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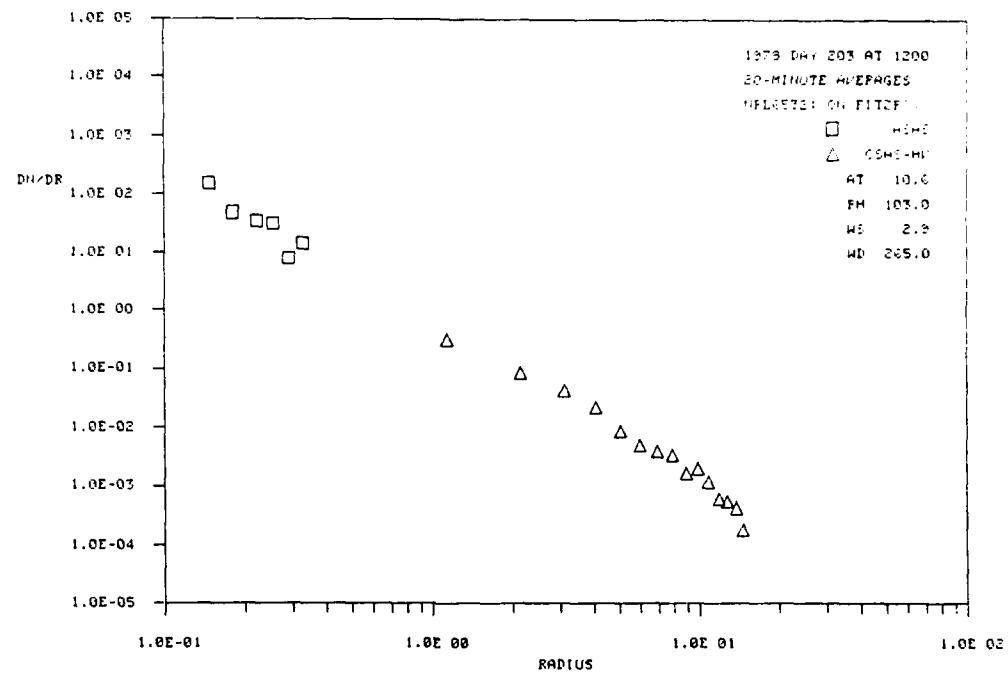


Fig. A1e

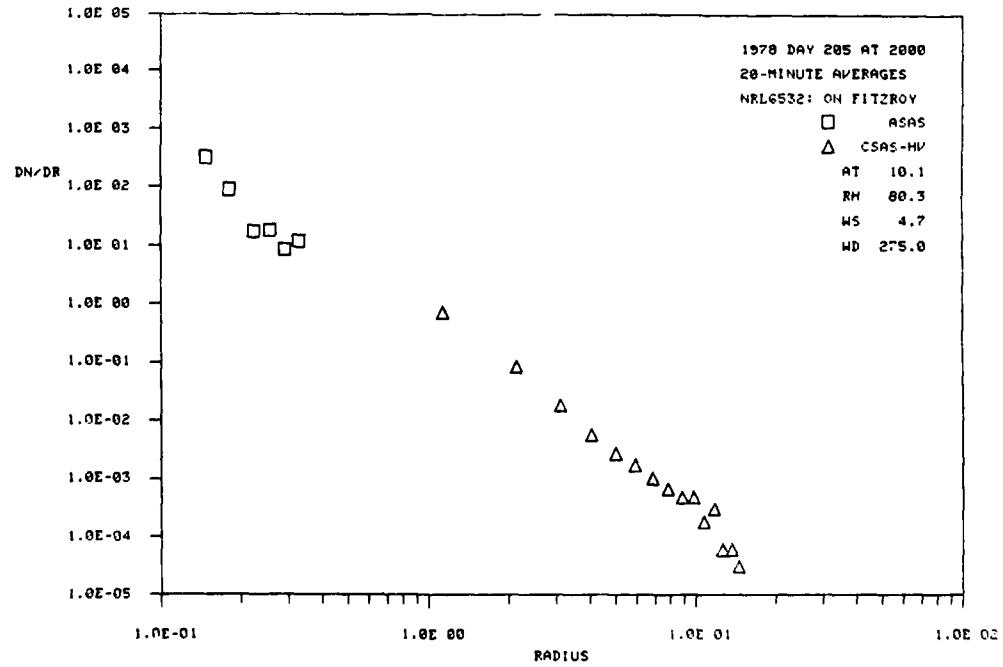


Fig. A1f

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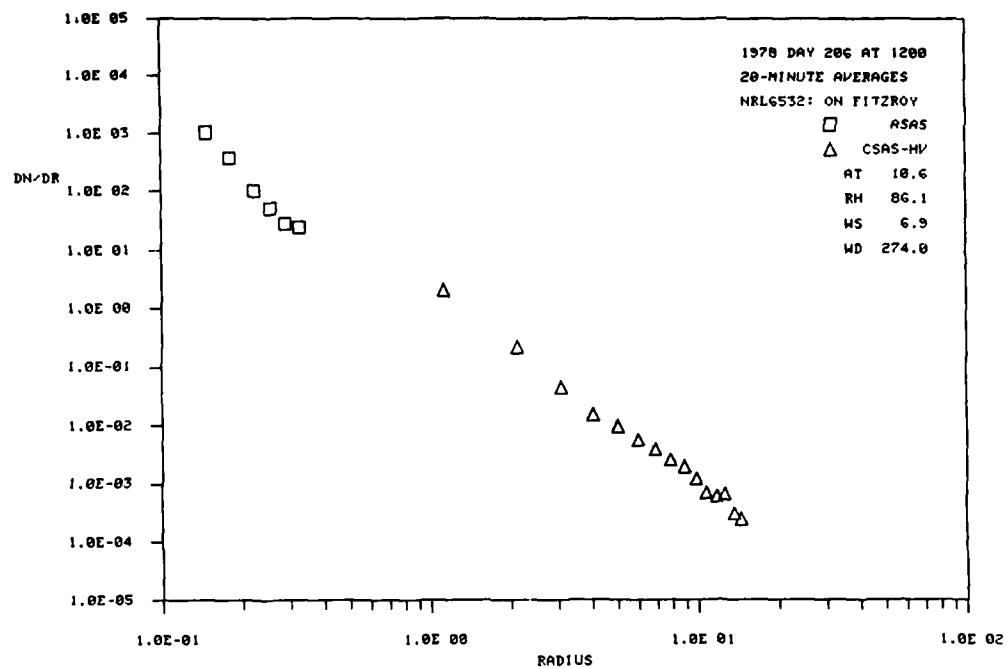


Fig. A1g

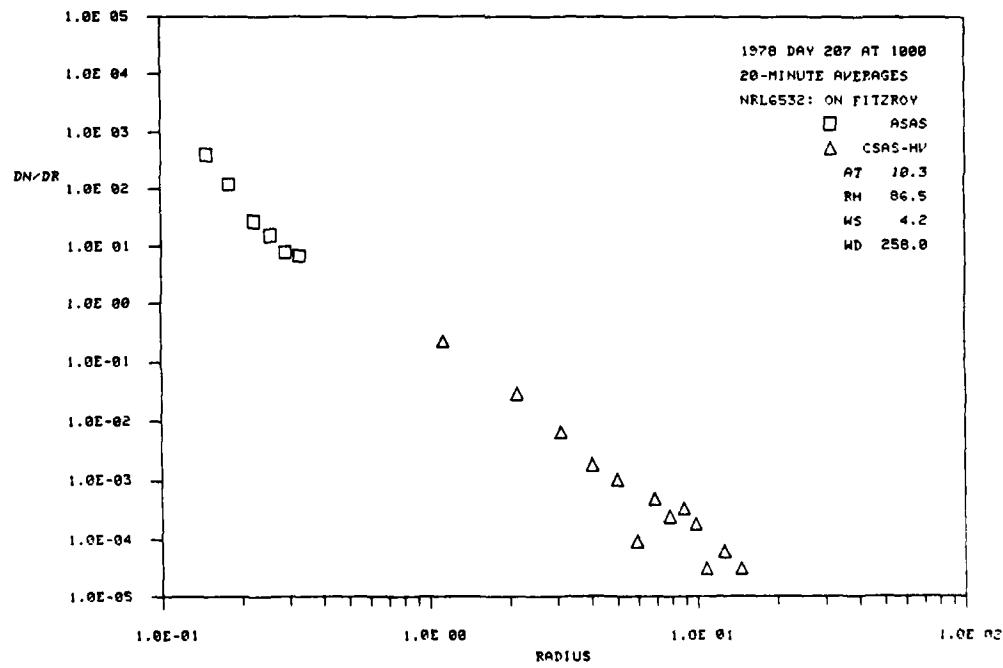
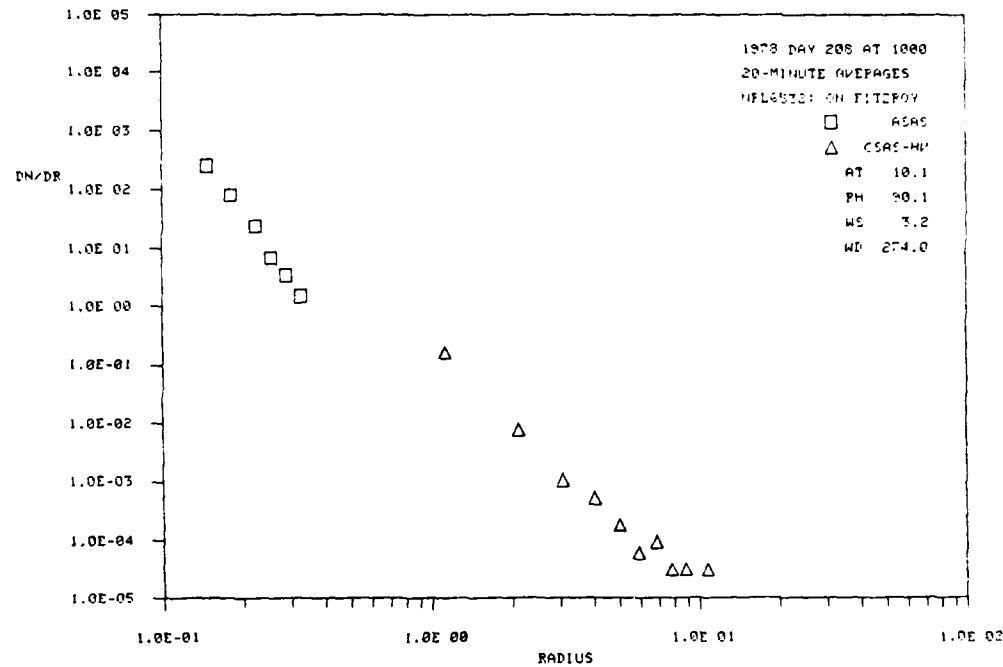


Fig. A1h

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TRUSTY AND COSDEN

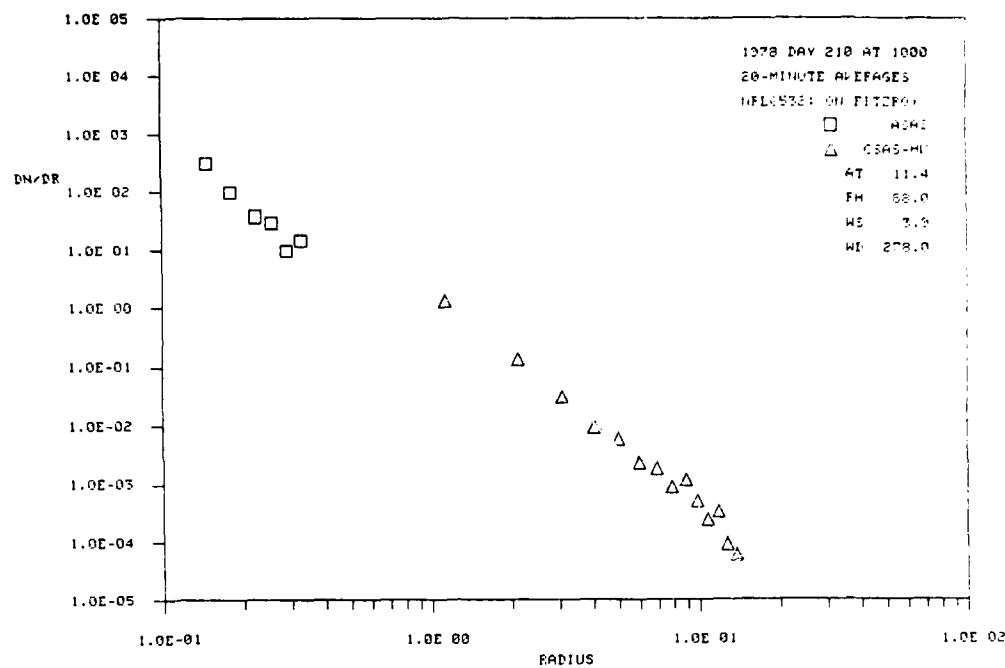


Fig. A1k

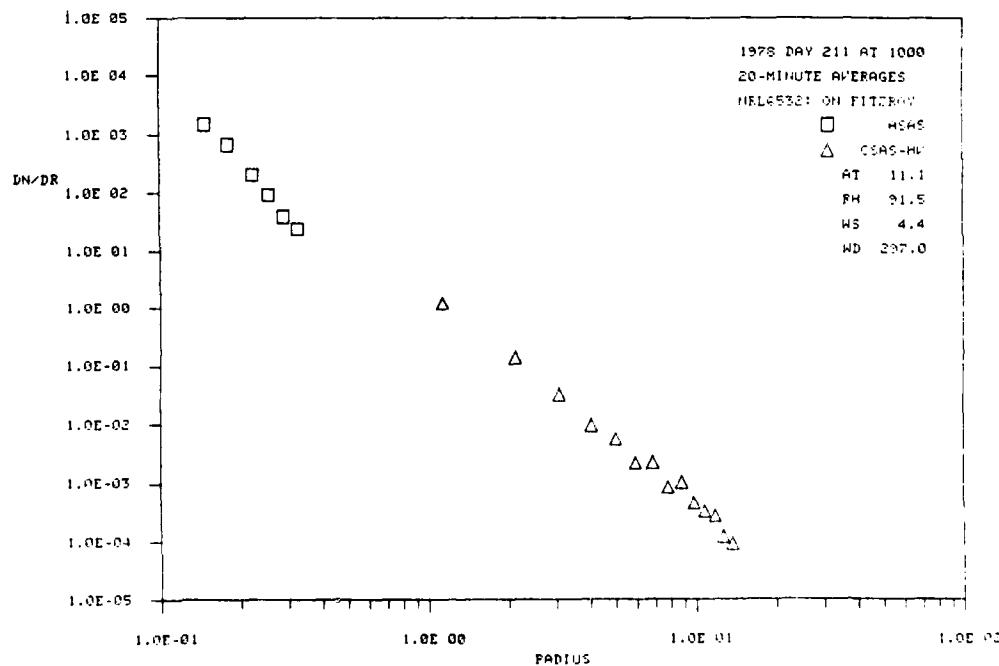


Fig. A1l

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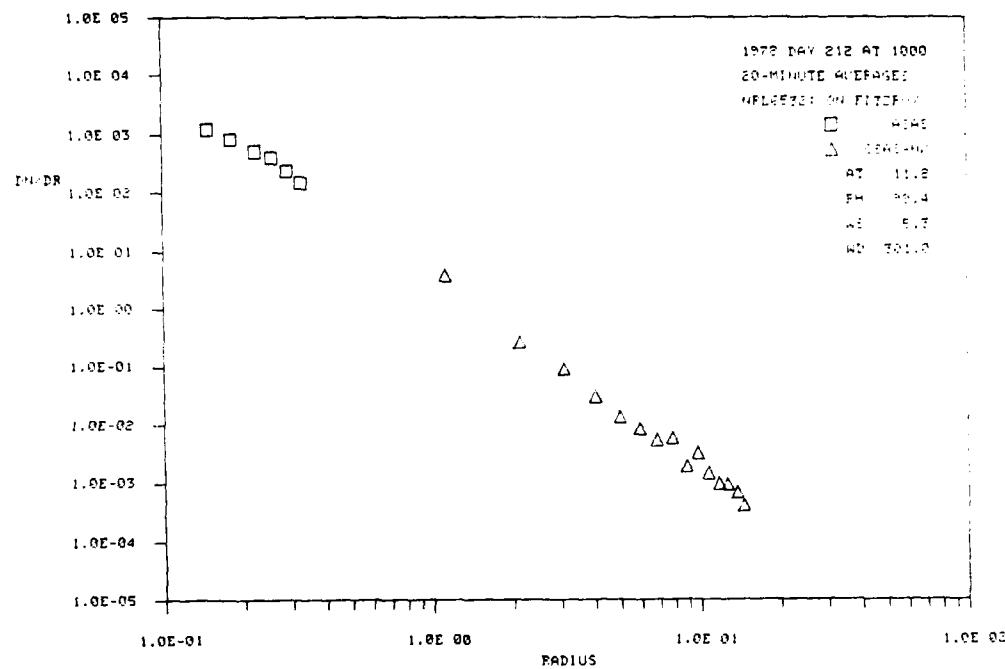


Fig. A1m

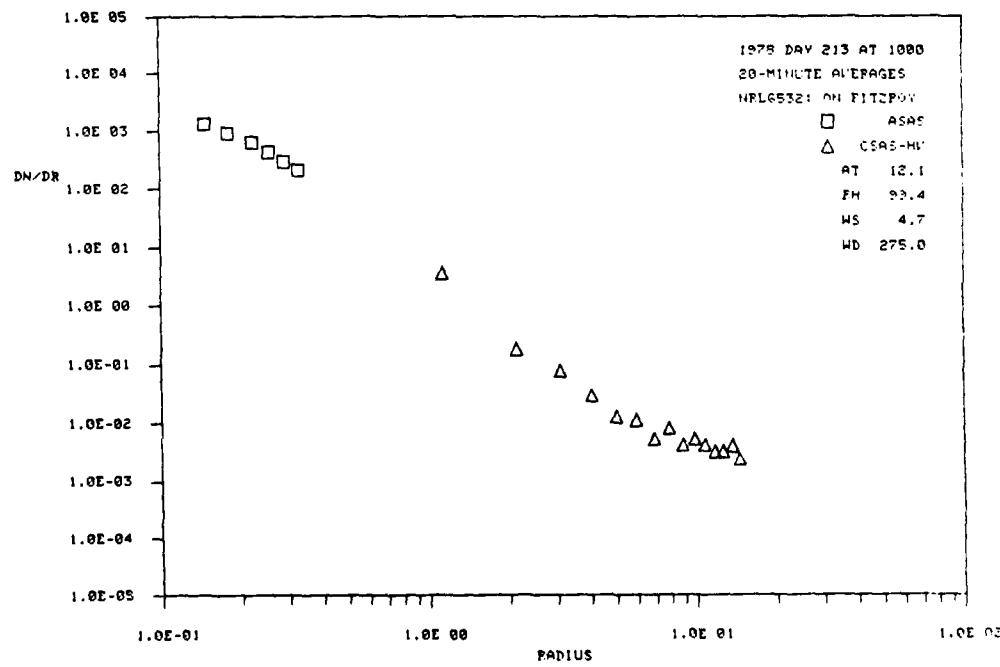


Fig. A1n

TRUSTY AND COSDEN

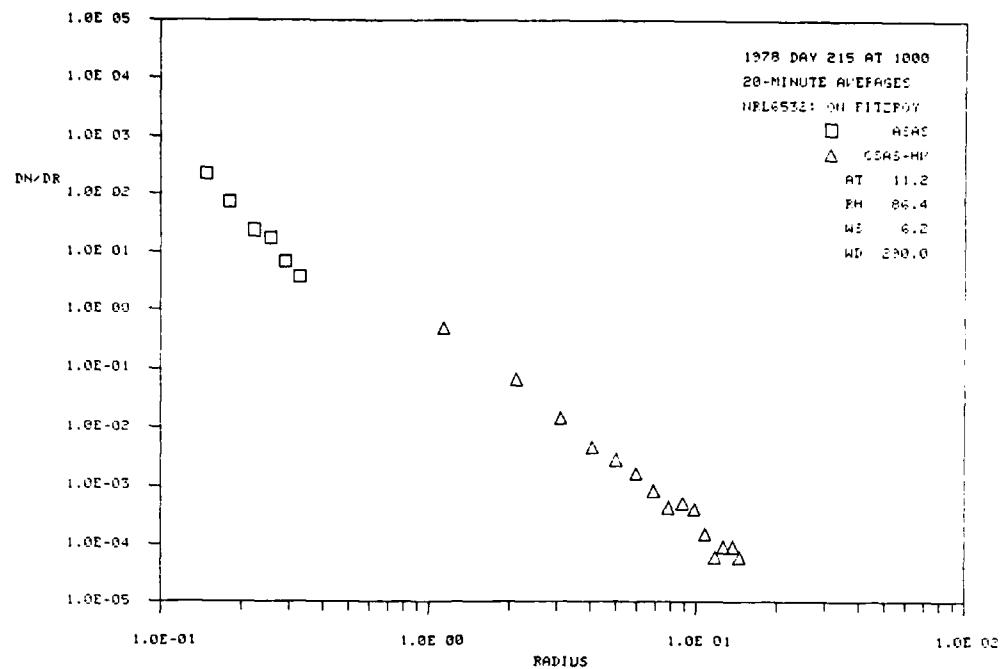


Fig. A1o

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